# MCP41HVX1

## Typical Performance Curves

### 1.0 TYPICAL PERFORMANCE CURVES

**Note:** The following performance graphs are for the devices that are documented in the MCP41HVX1 data sheet (DS20005207). This document allows the MCP41HVX1 data sheet's functional description to be in PDF format with a file size smaller than the 10 MB limit of many email file servers.
The graphs and tables provided following this note are a statistical summary based on a limited number of samples and are provided for informational purposes only. The performance characteristics listed herein are not tested or guaranteed. In some graphs or tables, the data presented may be outside the specified operating range (e.g., outside specified power supply range) and therefore outside the warranted range.

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.5V, DGND = V-, V+ = 36V.

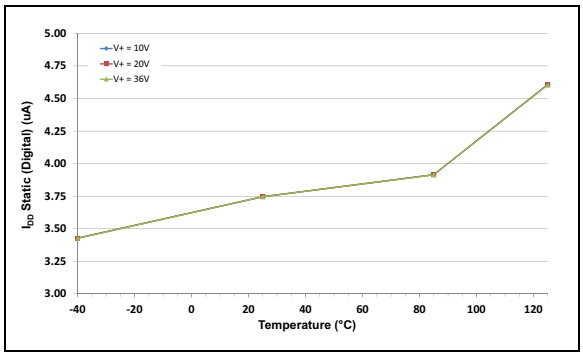


***FIGURE 1-1:*** *Device Digital Supply Static Current ($I_{DDD}$) vs. Temperature and V+ Voltage ($V_L$ = 5.5V, A = V+, B = V-, DGND = V-, V+ = 10V, 20V, and 36V).*

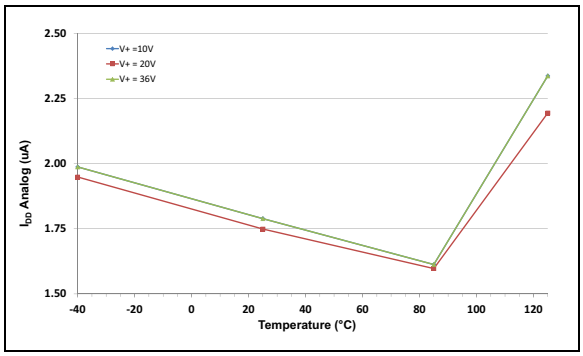


***FIGURE 1-3:*** *Device Analog Supply Static Current ($I_{DDA}$) vs. Temperature and V+ Voltage ($V_L$ = 5.5V, A = B =V-, DGND = V-, V+ = 10V, 20V, and 36V).*

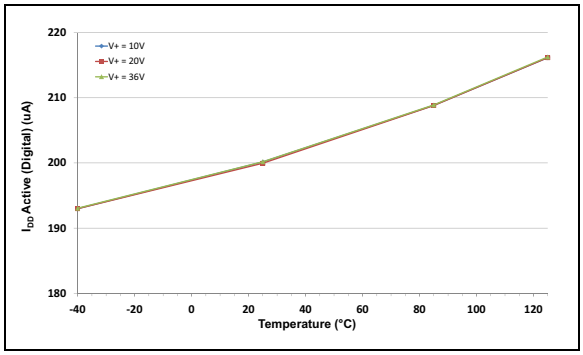


***FIGURE 1-2:*** *Device Digital Supply Active Current ($I_{DDD}$) vs. Temperature and V+ Voltage ($V_L$ = 5.5V, $F_{SCK}$ = 5 MHz, A = V+, B = V-, DGND = V-, V+ = 10V, 20V, and 36V).*

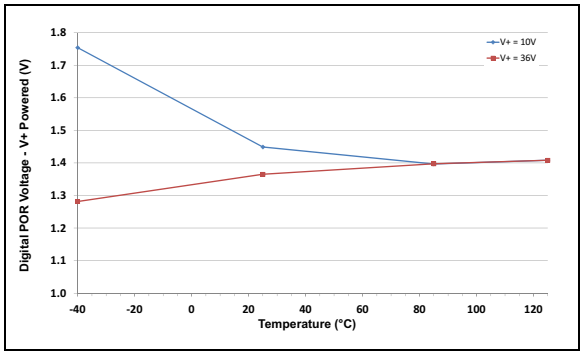


***FIGURE 1-4:*** *Digital Supply POR Voltage ($V_{DPOR}$) vs. Temperature and V+ Voltage (V+ = 10V and 36V).*

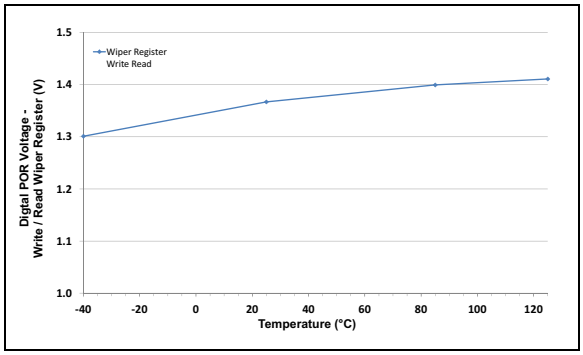


***FIGURE 1-5:*** *Digital Supply POR Voltage ($V_{DPOR}$) vs. Temperature (Analog Supply (V+/V-) Not Powered).*

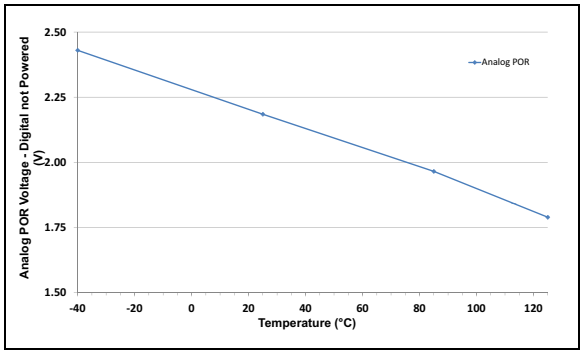


***FIGURE 1-6:*** *Analog Supply POR Voltage ($V_{APOR}$) vs. Temperature (Digital Supply ($V_L$ / DGND) Not Powered).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

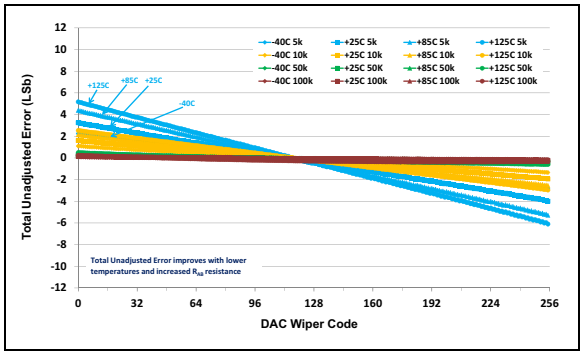


***FIGURE 1-7:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting, $R_{AB}$ Resistance, and Temperature (**8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

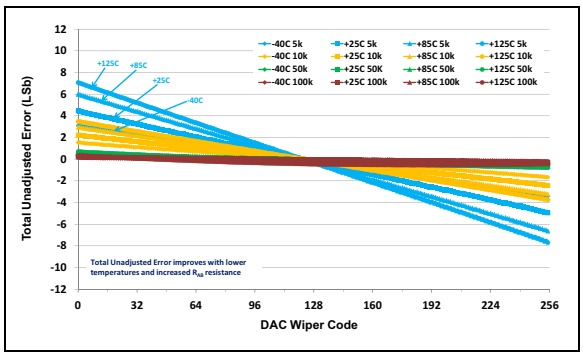


***FIGURE 1-8:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting, $R_{AB}$ Resistance, and Temperature (**8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

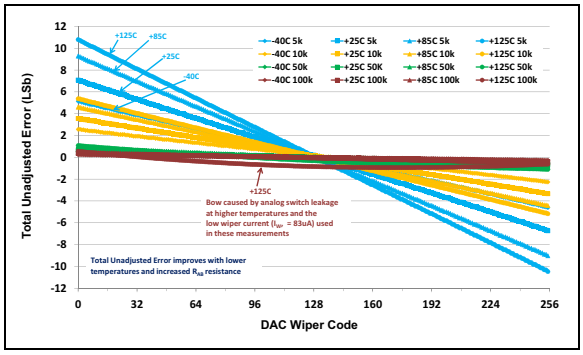


***FIGURE 1-9:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting, $R_{AB}$ Resistance, and Temperature (**8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

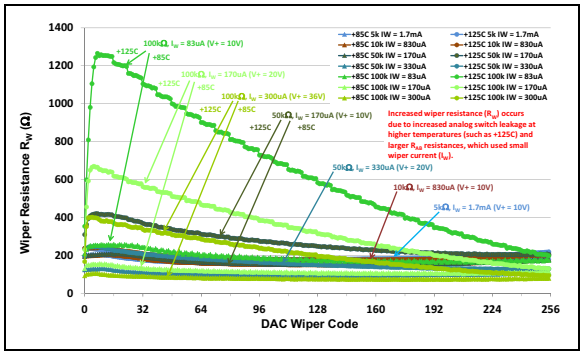


***FIGURE 1-10:*** *Wiper Resistance ($R_W$) vs. Wiper Setting, $R_{AB}$ Resistance, $I_W$ Current, and Temperature (**8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V

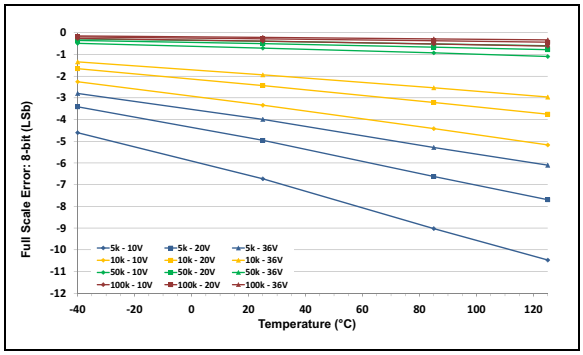


***FIGURE 1-11:*** *Full Scale Error (Pot. Mode) (FSE) vs. Temperature, $R_{AB}$ Resistance, and V+ Voltage (**8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

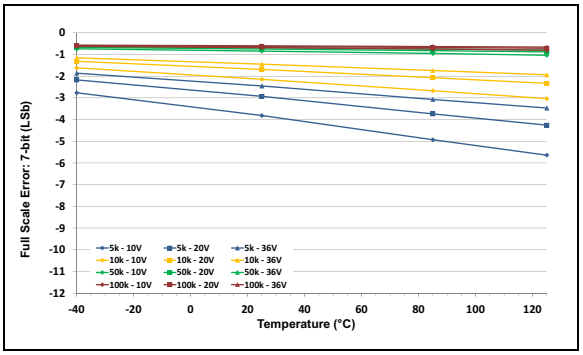


***FIGURE 1-14:*** *Full Scale Error (Pot. Mode) (FSE) vs. Temperature, $R_{AB}$ Resistance, and V+ Voltage (**7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

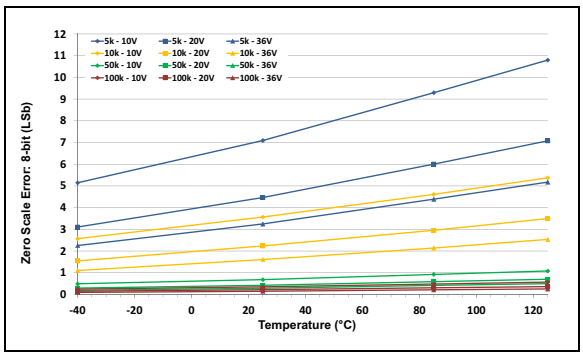


***FIGURE 1-12:*** *Zero Scale Error (Pot. Mode) (FSE) vs. Temperature, $R_{AB}$ Resistance, and V+ Voltage (**8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

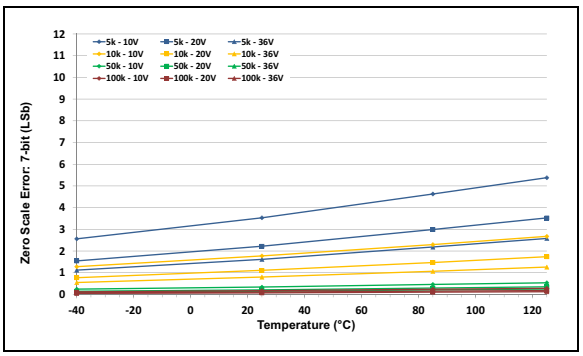


***FIGURE 1-15:*** *Zero Scale Error (Pot. Mode) (FSE) vs. Temperature, $R_{AB}$ Resistance, and V+ Voltage (**7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

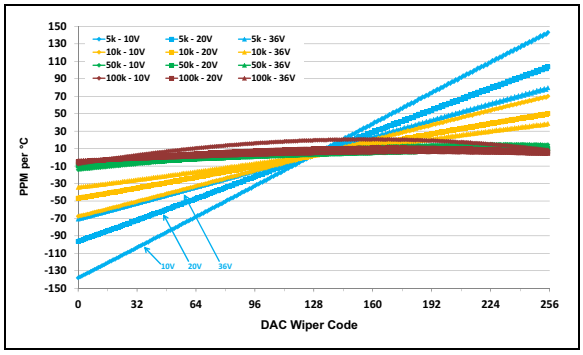


***FIGURE 1-13:*** *$V_W$ PPM / °C (Pot. Mode) vs. Temperature, $R_{AB}$ Resistance, and V+ Voltage ( ( ($V_{W(code=n, 125°C)}$ - $V_{W(code=n, -40°C)}$ ) / $V_{W(code=255, 25°C)}$ ) * 1,000,000 / 165°C ) (**8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

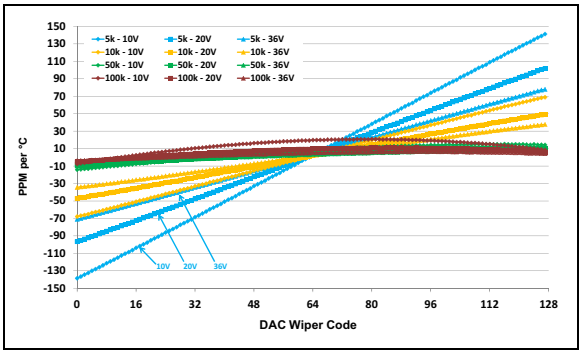


***FIGURE 1-16:*** *$V_W$ PPM / °C (Pot. Mode) vs. Temperature, $R_{AB}$ Resistance, and V+ Voltage ( ( ($V_{W(code=n, 125°C)}$ - $V_{W(code=n, -40°C)}$ ) / $V_{W(code=127, 25°C)}$ ) * 1,000,000 / 165°C ) (**7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

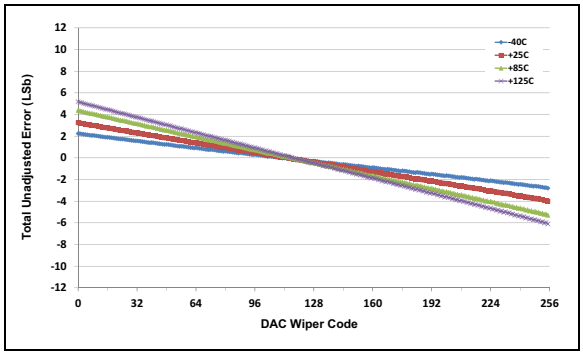


***FIGURE 1-17:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

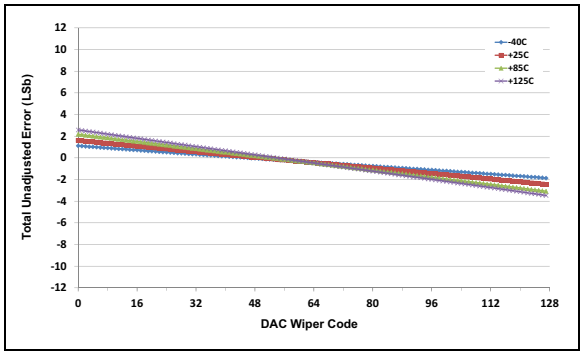


***FIGURE 1-20:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

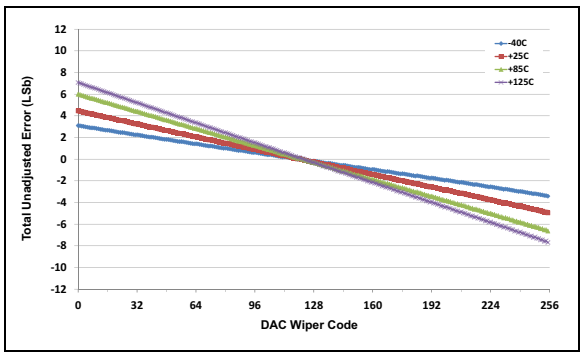


***FIGURE 1-18:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

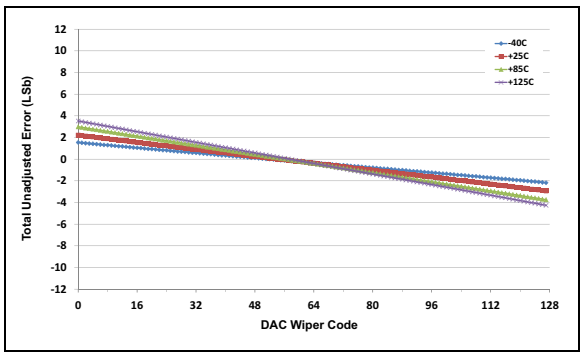


***FIGURE 1-21:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

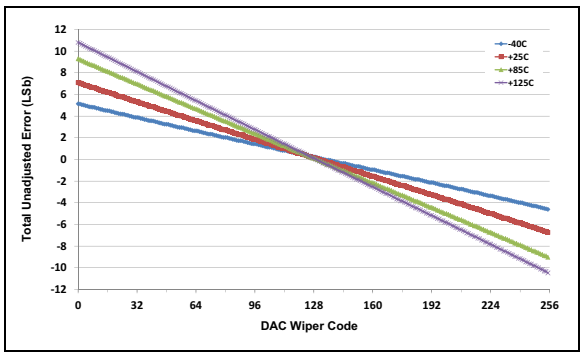


***FIGURE 1-19:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

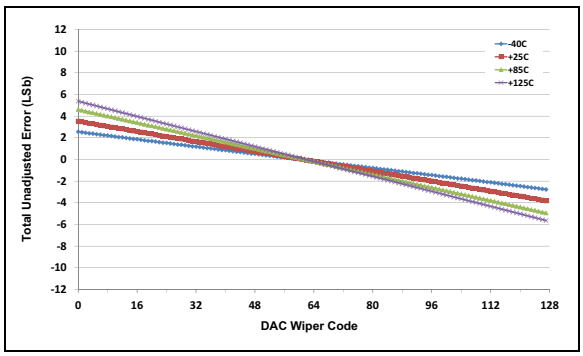


***FIGURE 1-22:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

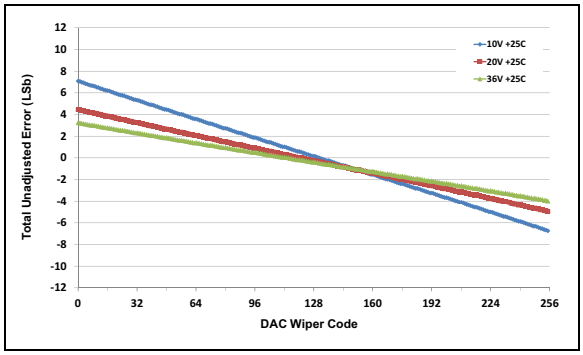


***FIGURE 1-23:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting (@ 25°C) (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

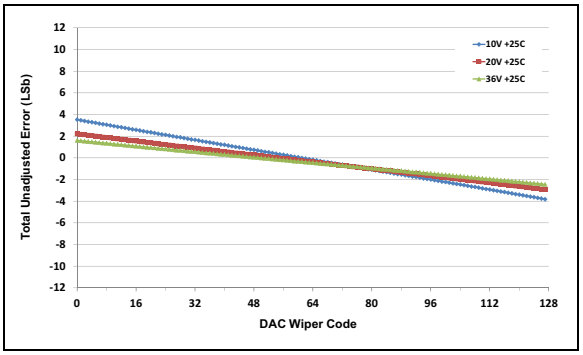


***FIGURE 1-26:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting (@ 25°C) (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

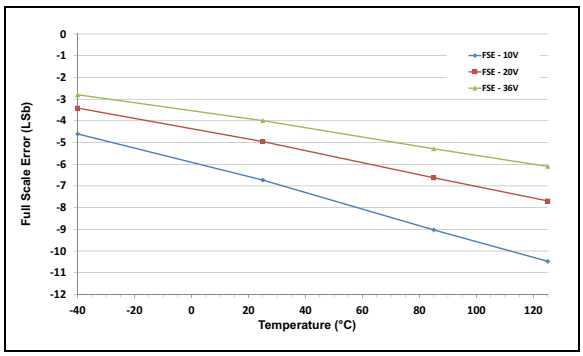


***FIGURE 1-24:*** *Full Scale Error (Pot. Mode) (FSE) vs. Temperature and V+ Voltage (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

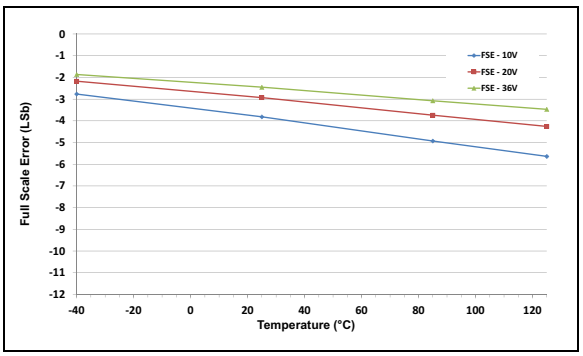


***FIGURE 1-27:*** *Full Scale Error (Pot. Mode) (FSE) vs. Temperature and V+ Voltage (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

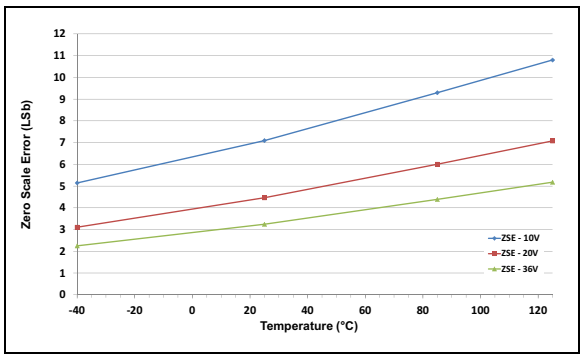


***FIGURE 1-25:*** *Zero Scale Error (Pot. Mode) (ZSE) vs. Temperature and V+ Voltage (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

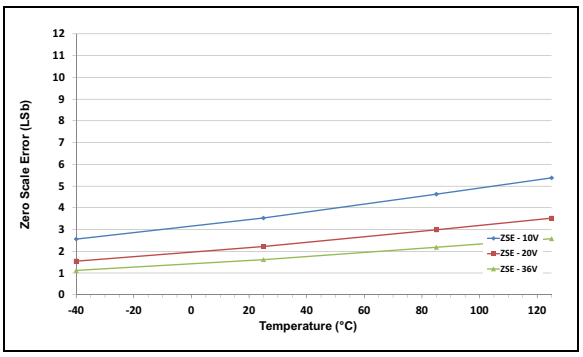


***FIGURE 1-28:*** *Zero Scale Error (Pot. Mode) (ZSE) vs. Temperature and V+ Voltage (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

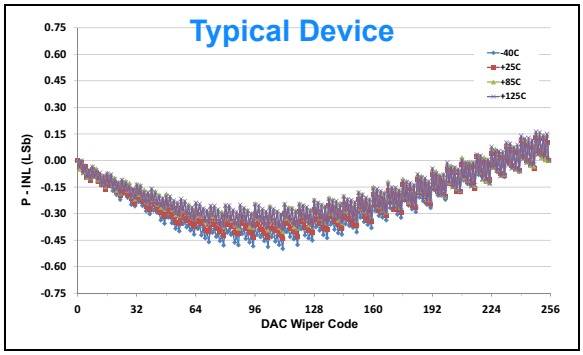


***FIGURE 1-29:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

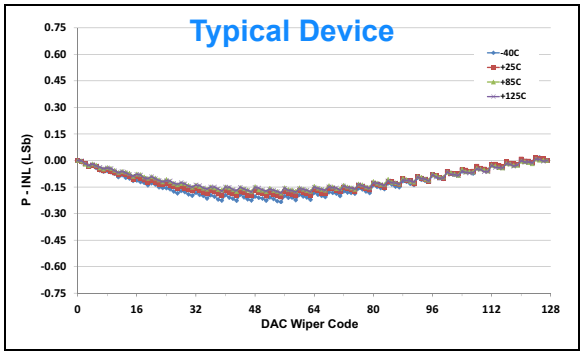


***FIGURE 1-32:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

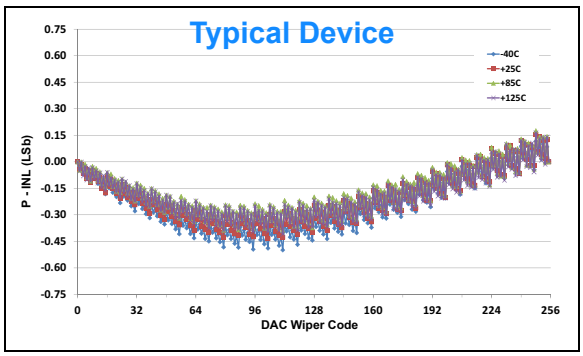


***FIGURE 1-30:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

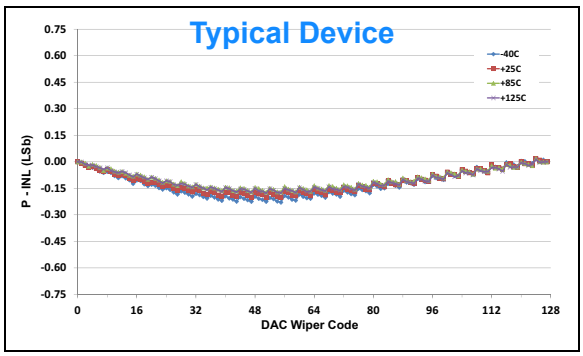


***FIGURE 1-33:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

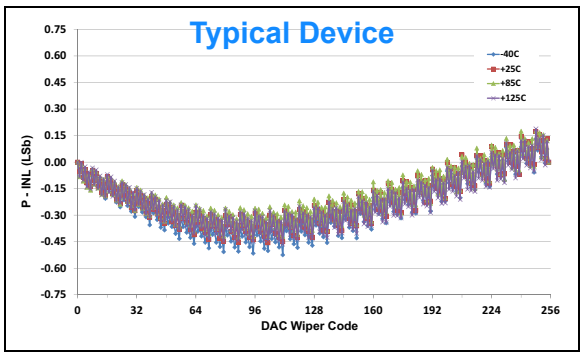


***FIGURE 1-31:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

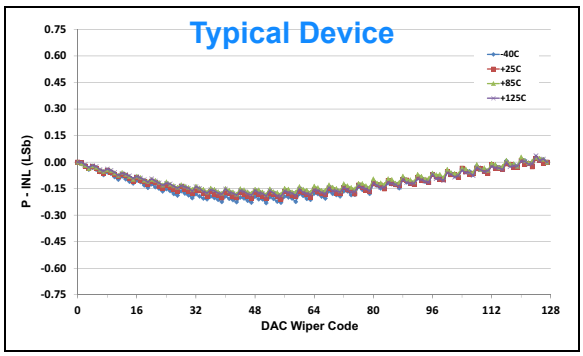


***FIGURE 1-34:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

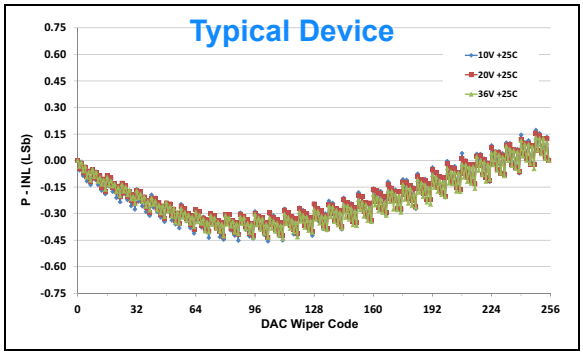


***FIGURE 1-35:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting (@ 25°C) (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

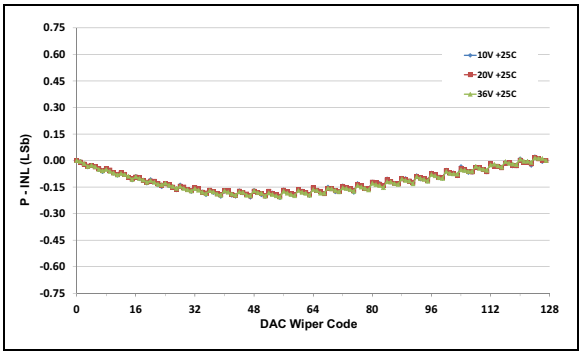


***FIGURE 1-36:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting (@ 25°C) (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

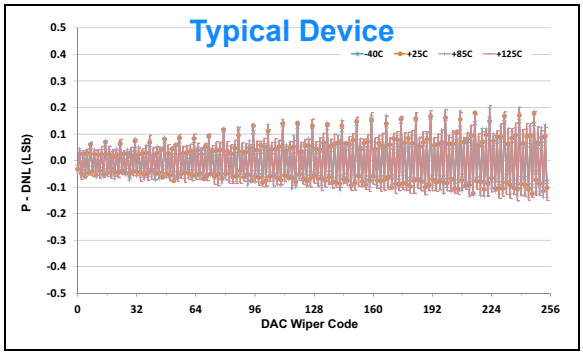


***FIGURE 1-37:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

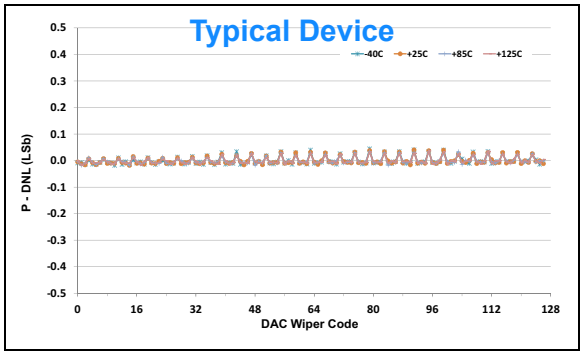


***FIGURE 1-40:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

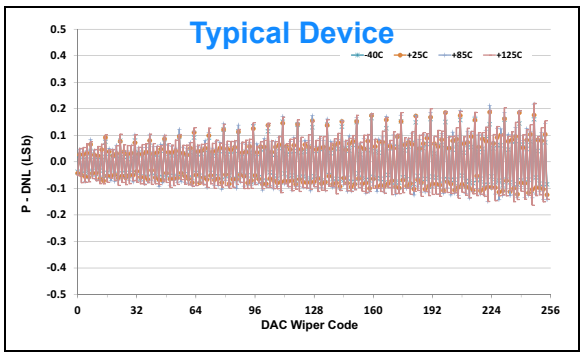


***FIGURE 1-38:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

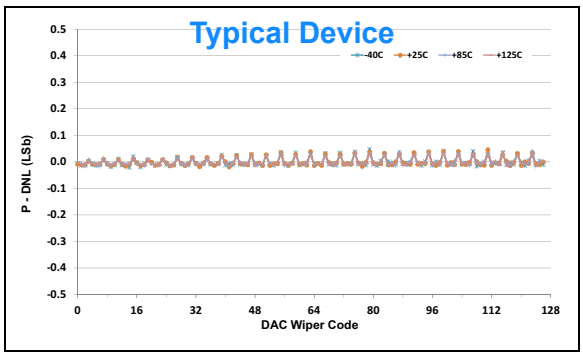


***FIGURE 1-41:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

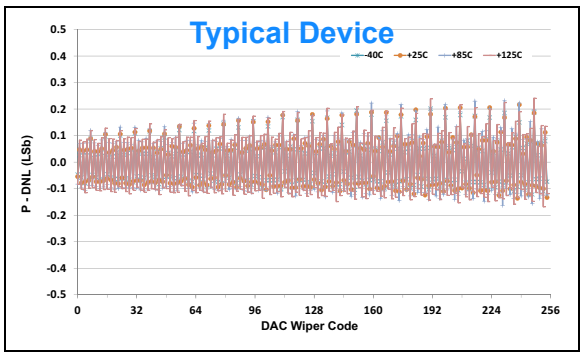


***FIGURE 1-39:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

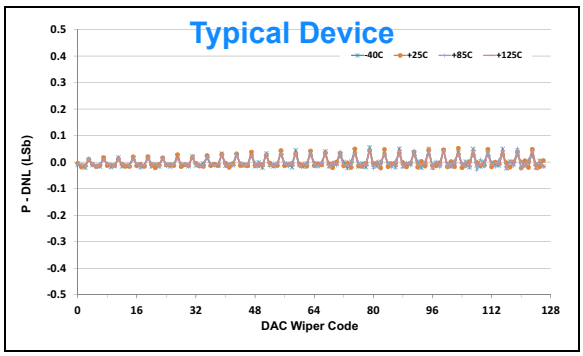


***FIGURE 1-42:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

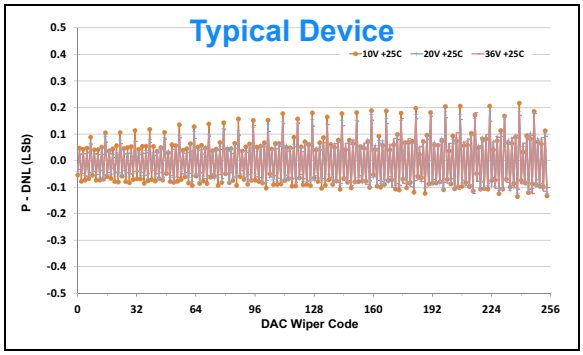


***FIGURE 1-43:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting (@ 25°C) (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

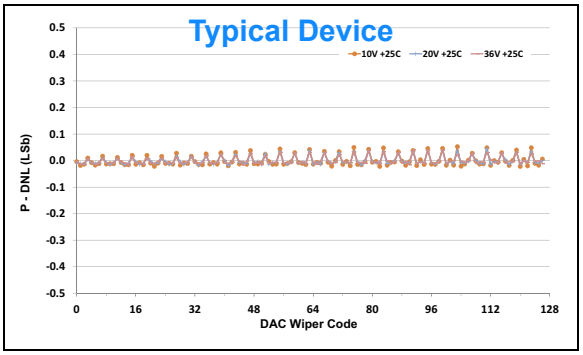


***FIGURE 1-44:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting (@ 25°C) (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

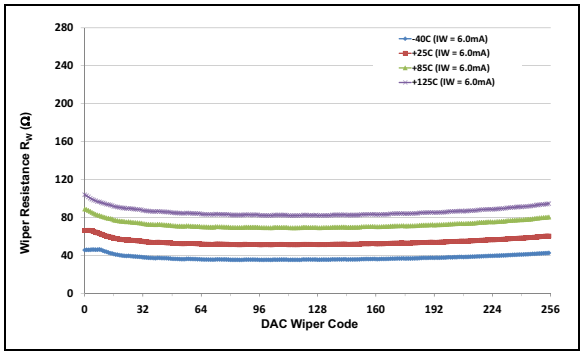


***FIGURE 1-45:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 6.0 mA**).*

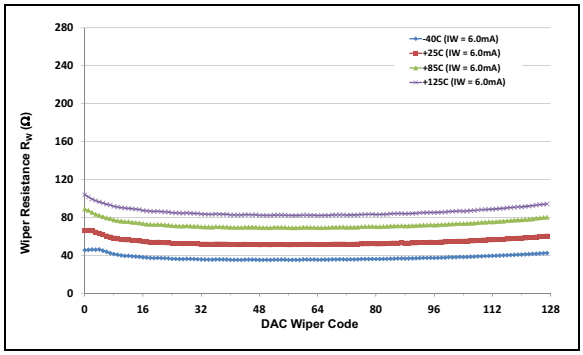


***FIGURE 1-48:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 6.0 mA**).*

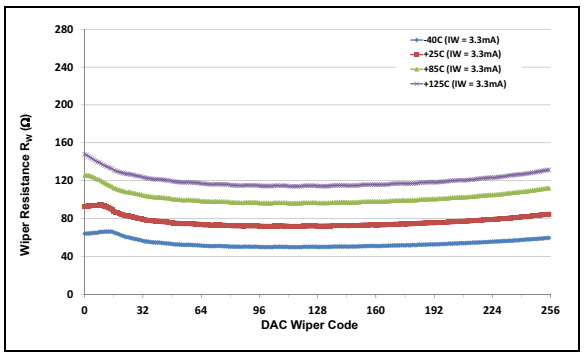


***FIGURE 1-46:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 3.3 mA**).*

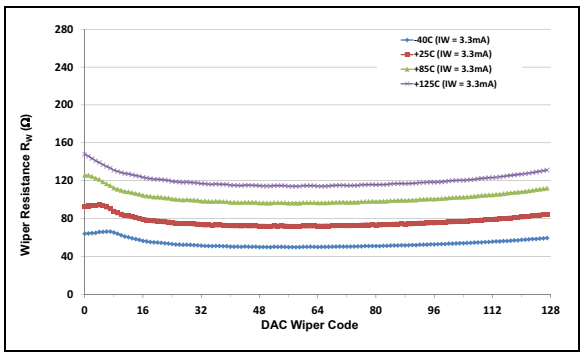


***FIGURE 1-49:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 3.3 mA**).*

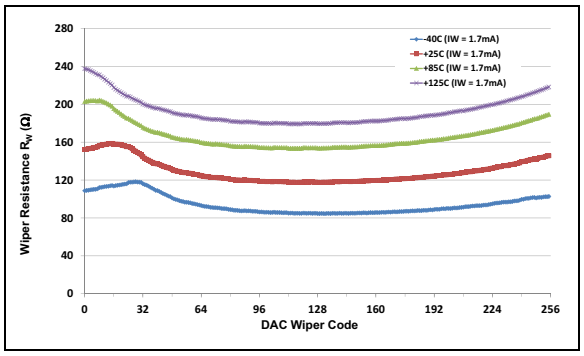


***FIGURE 1-47:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 1.7 mA**).*

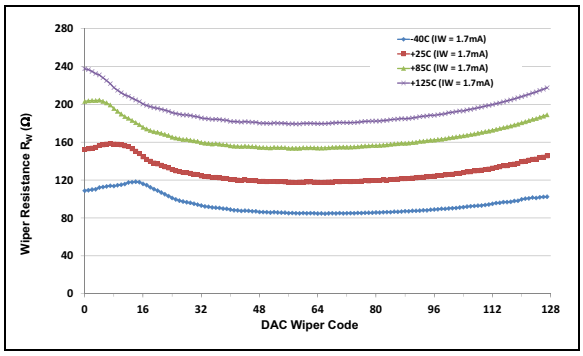


***FIGURE 1-50:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 1.7 mA**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V

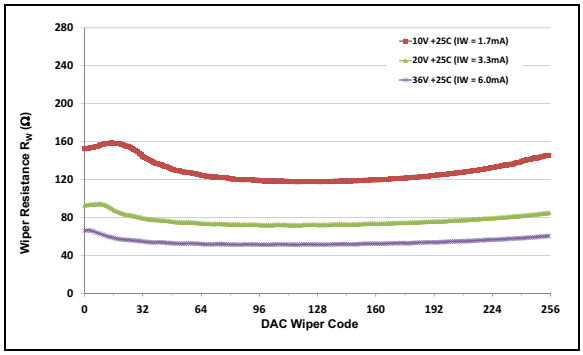


***FIGURE 1-51:*** *Wiper Resistance ($R_W$) vs. Wiper Setting @ 29°C (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 6.0mA**, **V+ = 20V and $I_W$ = 3.3 mA**, **V+ = 10V and $I_W$ = 1.7 mA**).*

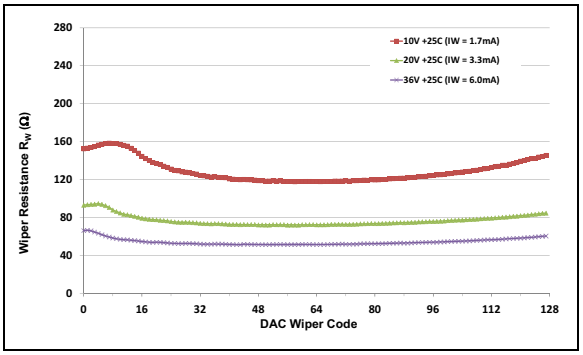


***FIGURE 1-52:*** *Wiper Resistance ($R_W$) vs. Wiper Setting @ 29°C (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, **V+ = 36V and $I_W$ = 6.0mA**, **V+ = 20V and $I_W$ = 3.3 mA**, **V+ = 10V and $I_W$ = 1.7 mA**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

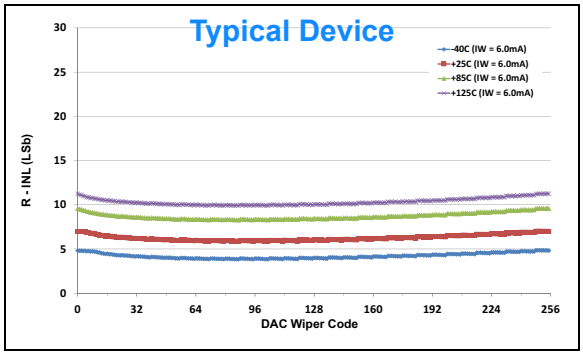


***FIGURE 1-53:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 6.0 mA**).*

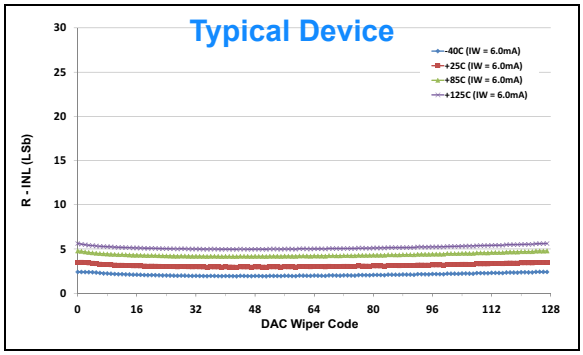


***FIGURE 1-56:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 6.0 mA**).*

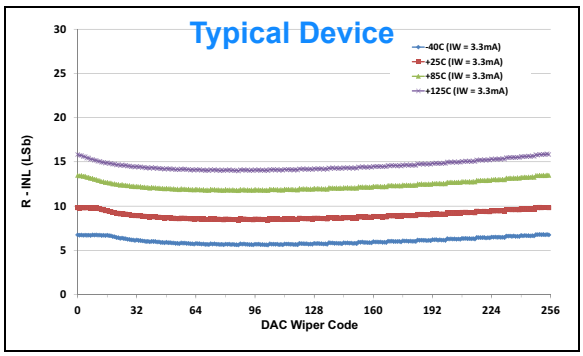


***FIGURE 1-54:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 3.3 mA**).*

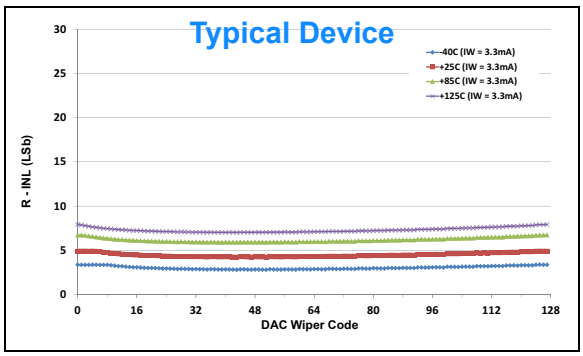


***FIGURE 1-57:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 3.3 mA**).*

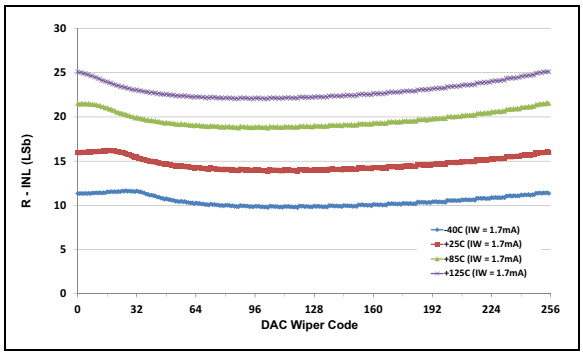


***FIGURE 1-55:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 1.7 mA**).*

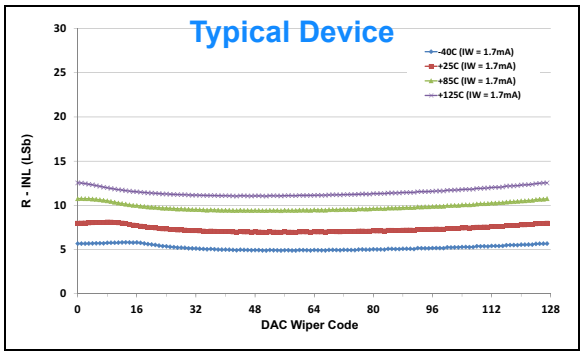


***FIGURE 1-58:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 1.7 mA**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

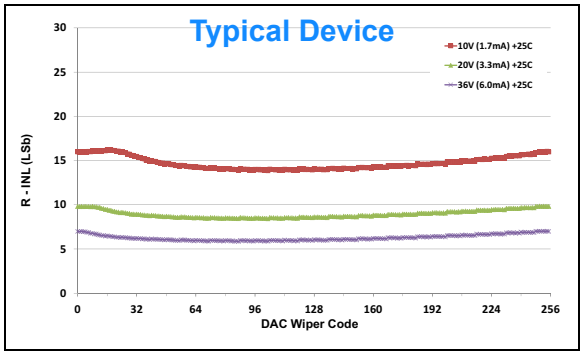


***FIGURE 1-59:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting (@ 25°C) (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 6.0 mA**, **V+ = 20V and $I_W$ = 3.3 mA**, **V+ = 10V and $I_W$ = 1.7 mA**).*

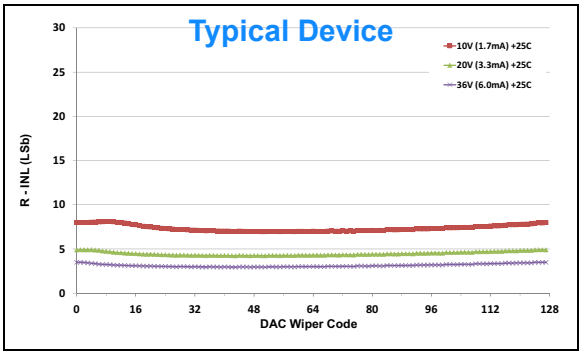


***FIGURE 1-60:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting (@ 25°C) (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 6.0 mA**, **V+ = 20V and $I_W$ = 3.3 mA**, **V+ = 10V and $I_W$ = 1.7 mA**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

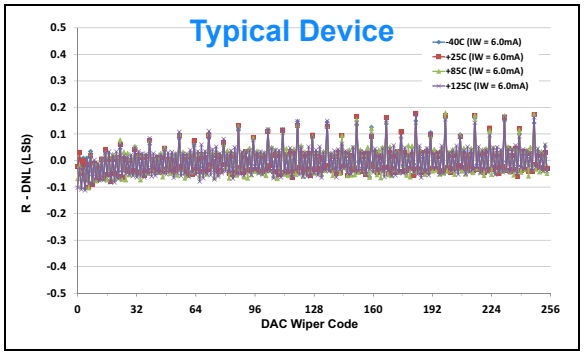


***FIGURE 1-61:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 6.0 mA**).*

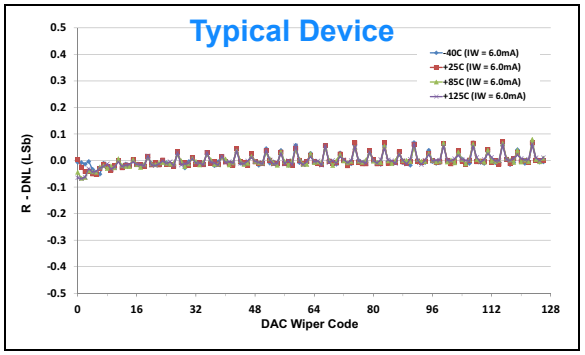


***FIGURE 1-64:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 6.0 mA**).*

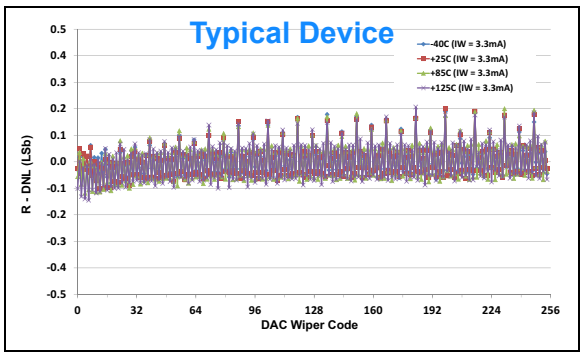


***FIGURE 1-62:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 3.3 mA**).*

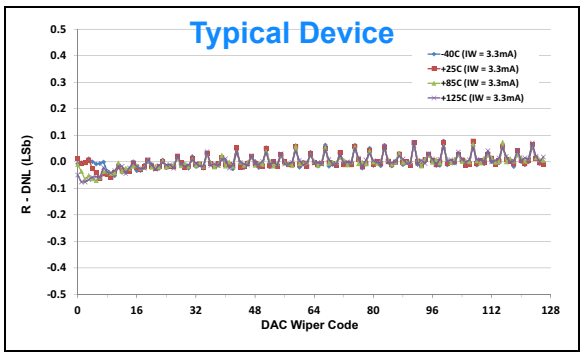


***FIGURE 1-65:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 3.3 mA**).*

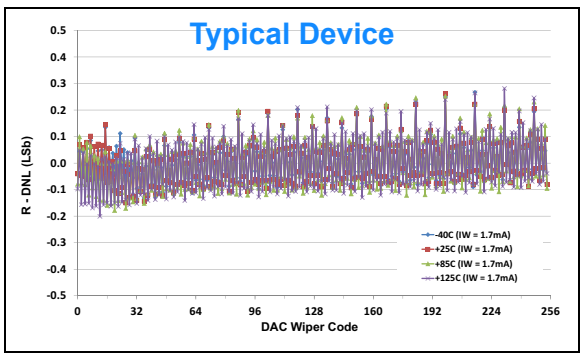


***FIGURE 1-63:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 1.7 mA**).*

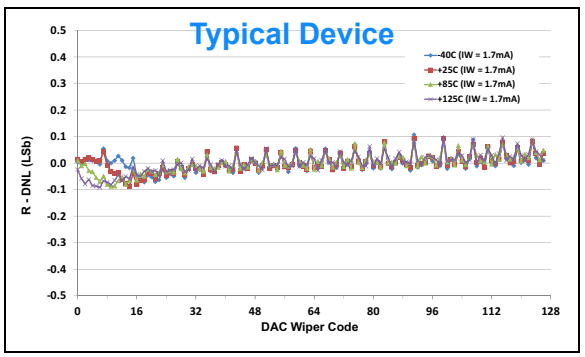


***FIGURE 1-66:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 1.7 mA**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

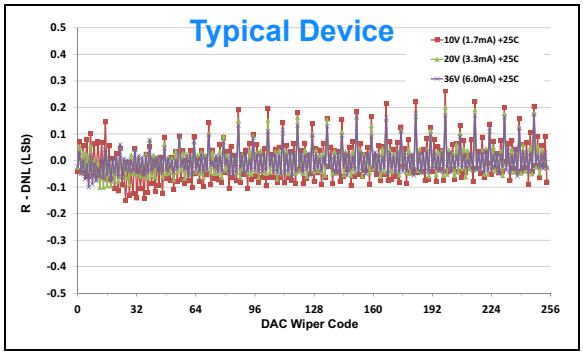


***FIGURE 1-67:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting (@ 25°C) (**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 6.0 mA**, **V+ = 20V and $I_W$ = 3.3 mA**, **V+ = 10V and $I_W$ = 1.7 mA**).*

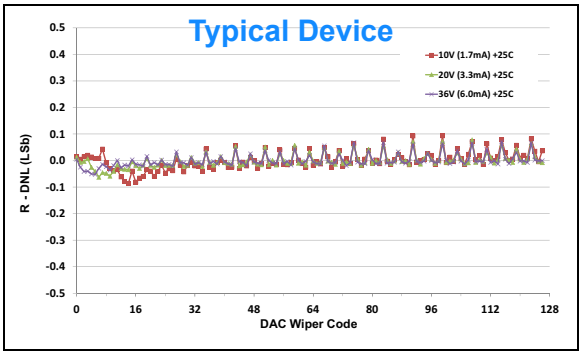


***FIGURE 1-68:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting (@ 25°C) (**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 6.0 mA**, **V+ = 20V and $I_W$ = 3.3 mA**, **V+ = 10V and $I_W$ = 1.7 mA**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

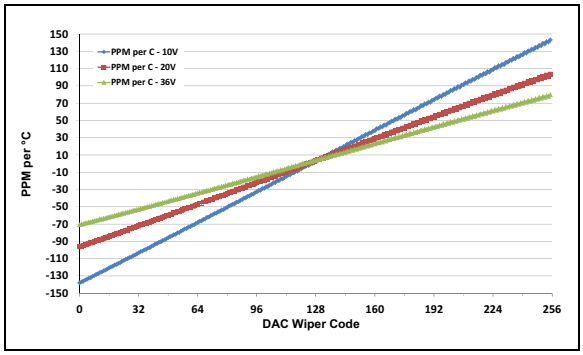


***FIGURE 1-69:*** *$V_W$ PPM / °C (Pot. Mode) vs. Temperature, and V+ Voltage*
*( ( ($V_{W(code=n, 125°C)}$ - $V_{W(code=n, -40°C)}$ ) / $V_{W(code=255, 25°C)}$ ) * 1,000,000 / 165°C )*
*(**5.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

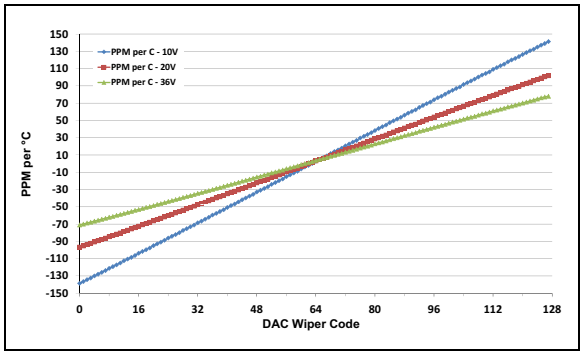


***FIGURE 1-70:*** *$V_W$ PPM / °C (Pot. Mode) vs. Temperature, and V+ Voltage*
*( ( ($V_{W(code=n, 125°C)}$ - $V_{W(code=n, -40°C)}$ ) / $V_{W(code=127, 25°C)}$ ) * 1,000,000 / 165°C )*
*(**5.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

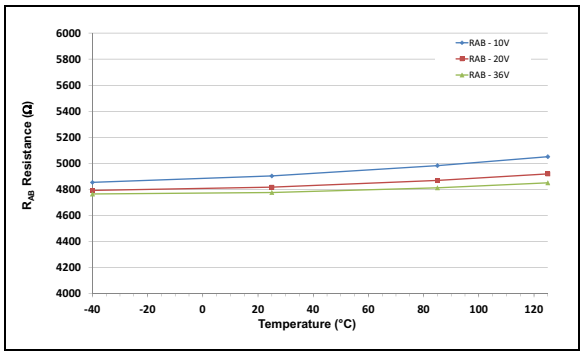


***FIGURE 1-71:*** *$R_{AB}$ Resistance vs. Temperature and V+ Voltage*
*(**5.0 kΩ**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

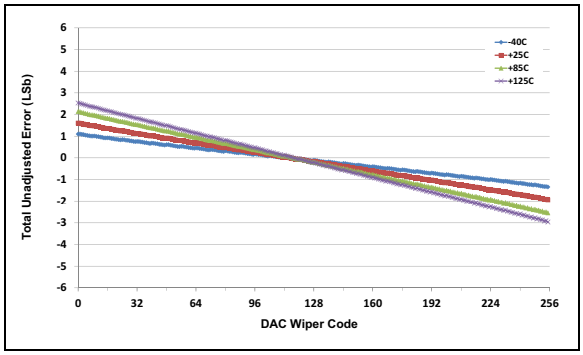


***FIGURE 1-72:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

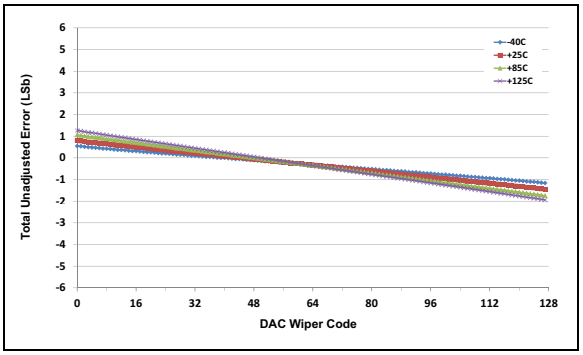


***FIGURE 1-75:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

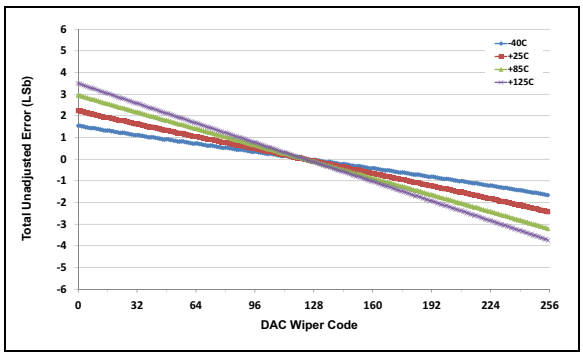


***FIGURE 1-73:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

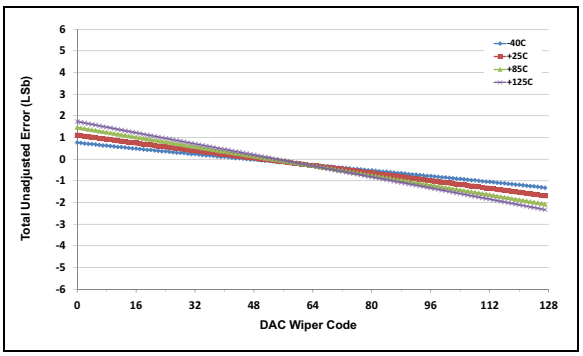


***FIGURE 1-76:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

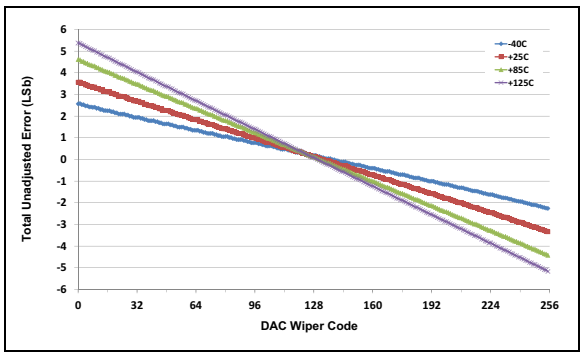


***FIGURE 1-74:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

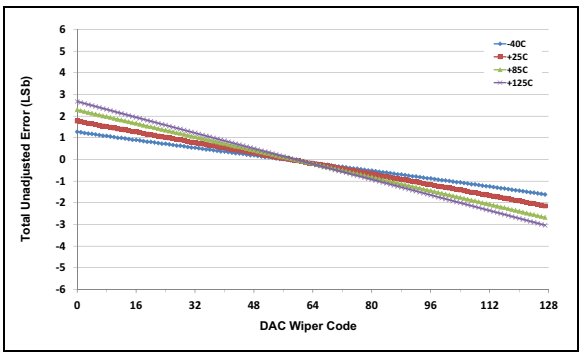


***FIGURE 1-77:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

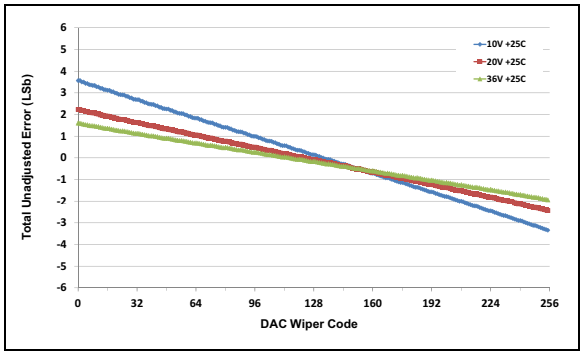


***FIGURE 1-78:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting (@ 25°C) (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

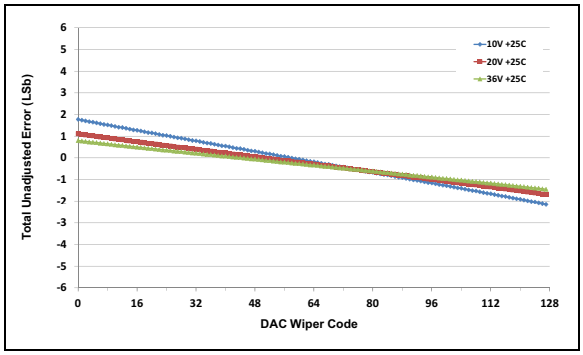


***FIGURE 1-81:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting (@ 25°C) (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

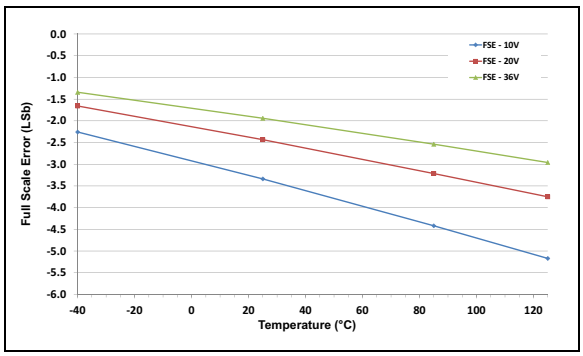


***FIGURE 1-79:*** *Full Scale Error (Pot. Mode) (FSE) vs. Temperature and V+ Voltage (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

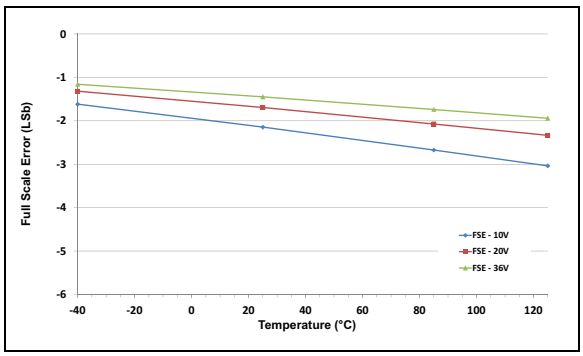


***FIGURE 1-82:*** *Full Scale Error (Pot. Mode) (FSE) vs. Temperature and V+ Voltage (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

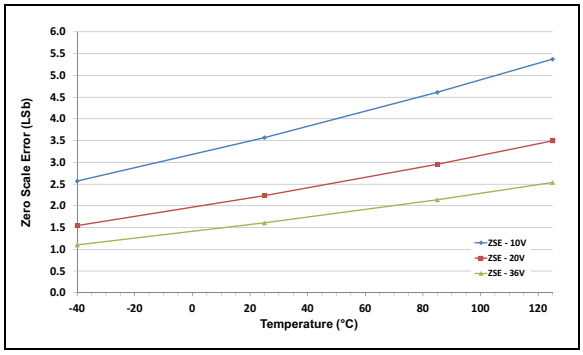


***FIGURE 1-80:*** *Zero Scale Error (Pot. Mode) (ZSE) vs. Temperature and V+ Voltage (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

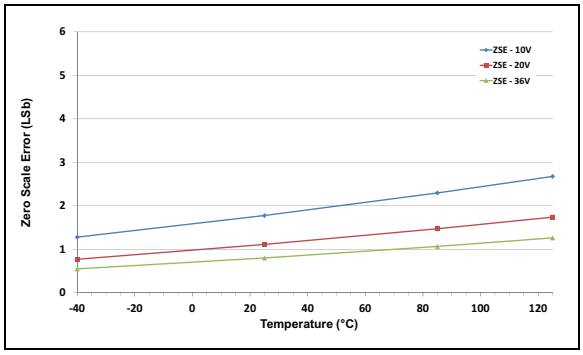


***FIGURE 1-83:*** *Zero Scale Error (Pot. Mode) (ZSE) vs. Temperature and V+ Voltage (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

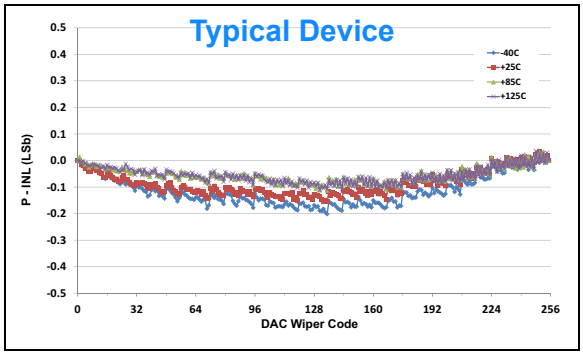


***FIGURE 1-84:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

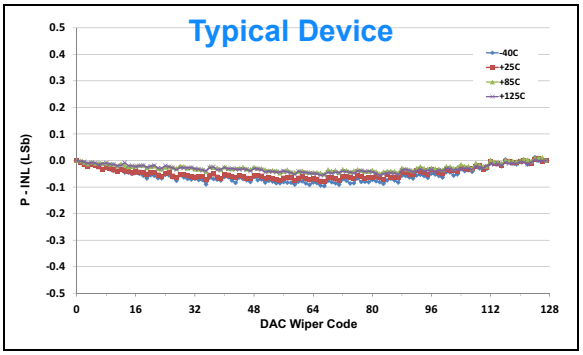


***FIGURE 1-87:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

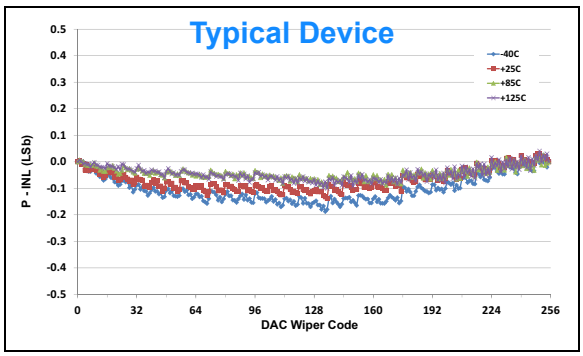


***FIGURE 1-85:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

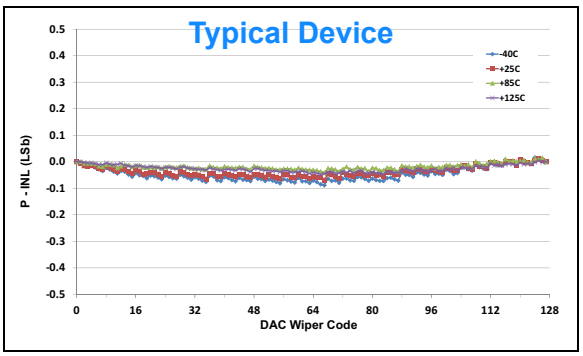


***FIGURE 1-88:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

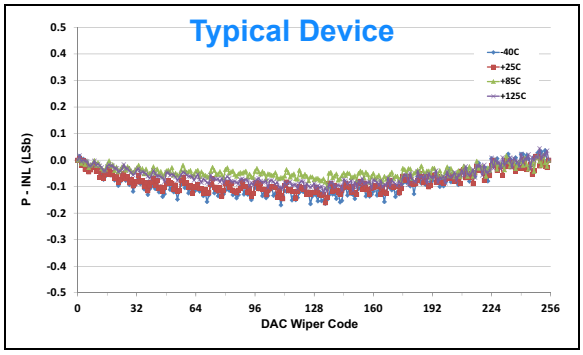


***FIGURE 1-86:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

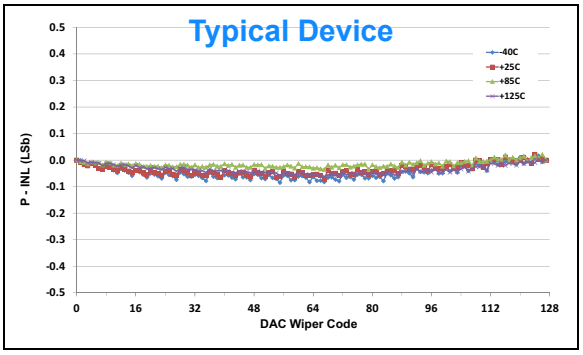


***FIGURE 1-89:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

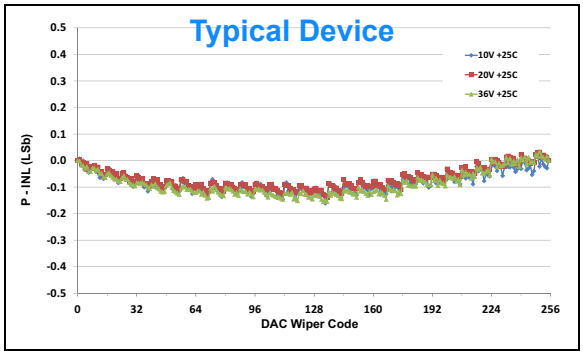


***FIGURE 1-90:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting (@ 25°C) (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

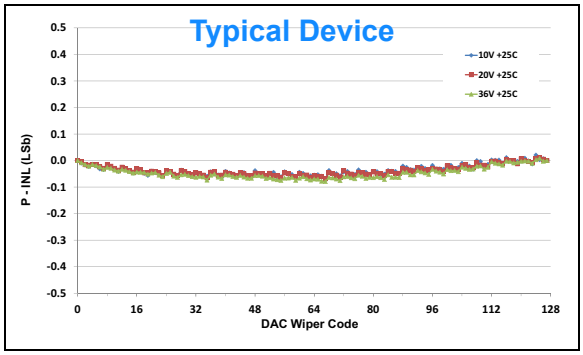


***FIGURE 1-91:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting (@ 25°C) (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

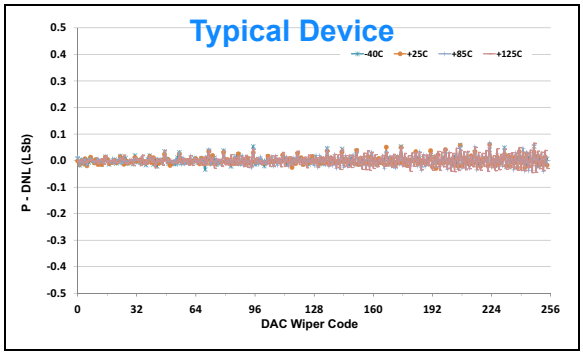


***FIGURE 1-92:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

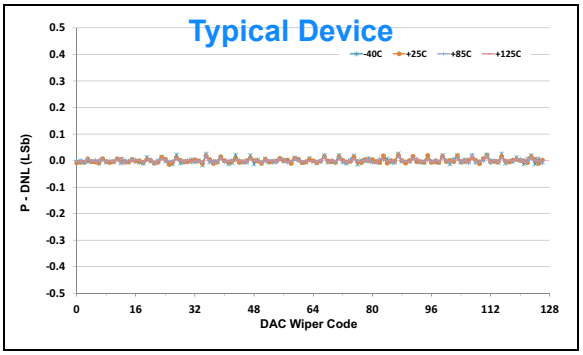


***FIGURE 1-95:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

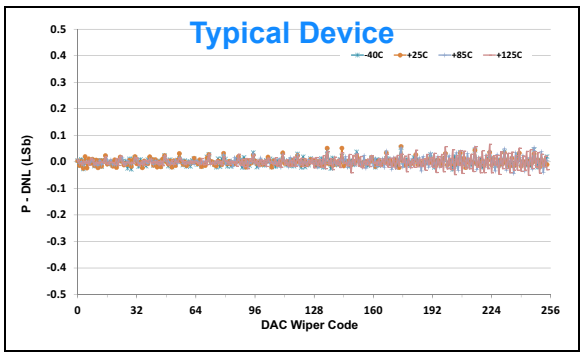


***FIGURE 1-93:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

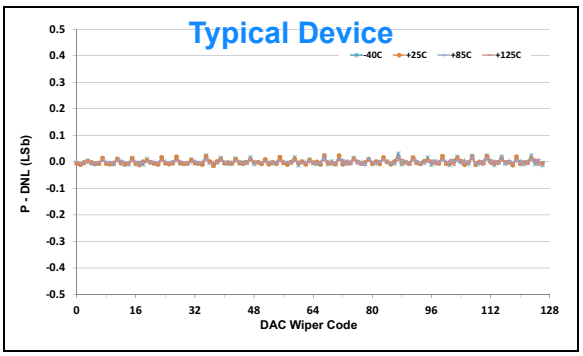


***FIGURE 1-96:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

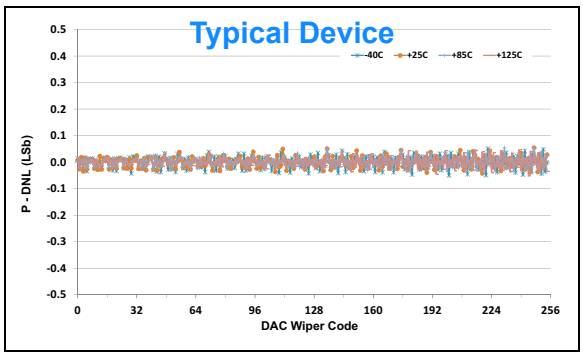


***FIGURE 1-94:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

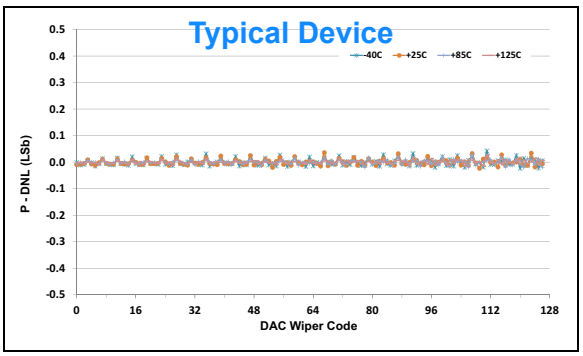


***FIGURE 1-97:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

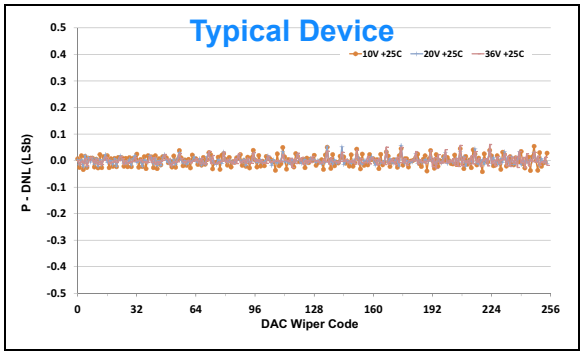


***FIGURE 1-98:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting (@ 25°C) (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

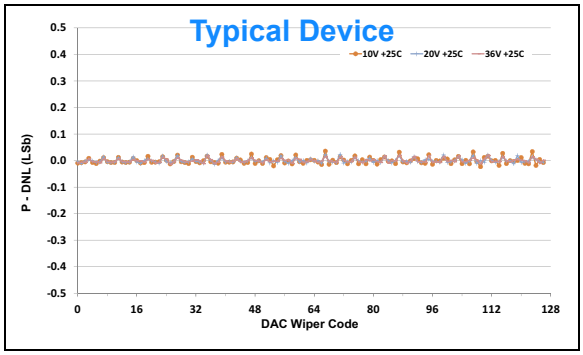


***FIGURE 1-99:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting (@ 25°C) (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

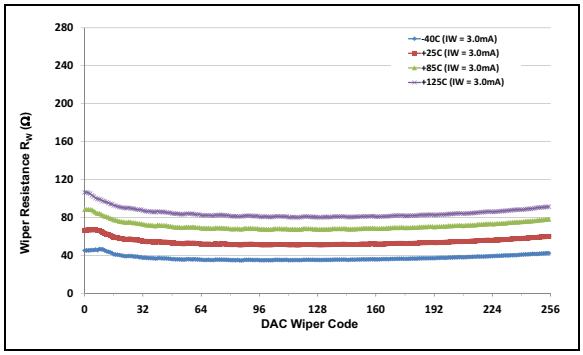


***FIGURE 1-100:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 3.0 mA**).*

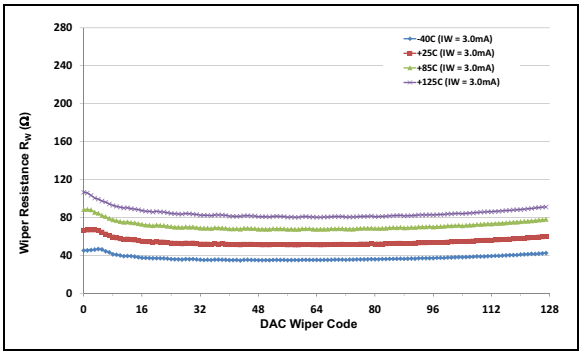


***FIGURE 1-103:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 3.0 mA**).*

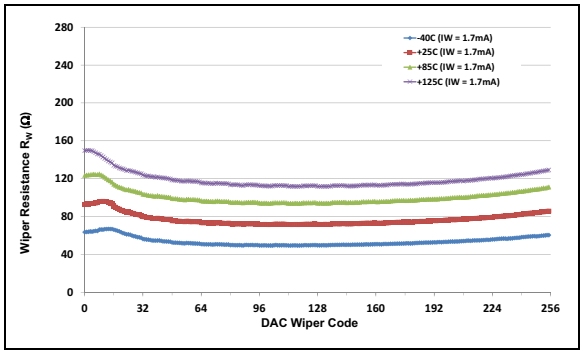


***FIGURE 1-101:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 1.7 mA**).*

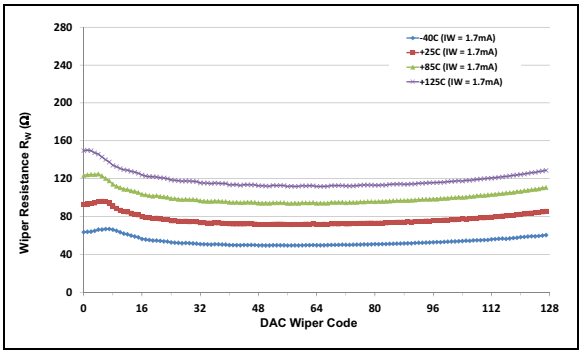


***FIGURE 1-104:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 1.7 mA**).*

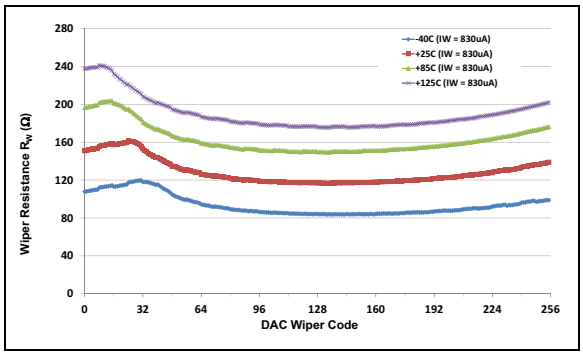


***FIGURE 1-102:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 830 µA**).*

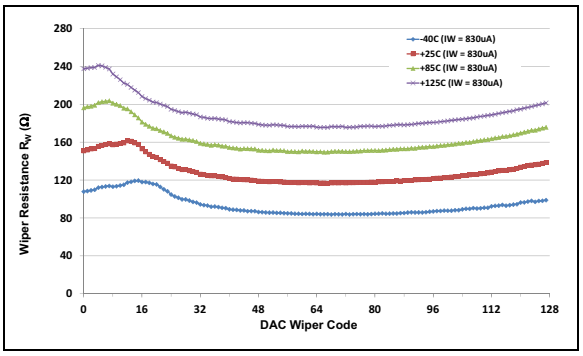


***FIGURE 1-105:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 830 µA**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

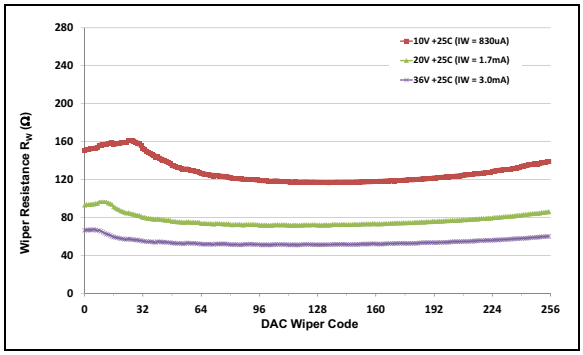


***FIGURE 1-106:*** *Wiper Resistance ($R_W$) vs. Wiper Setting @ 29°C (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 3.0 mA**, **V+ = 20V and $I_W$ = 1.7 mA**, **V+ = 10V and $I_W$ = 830 µA**).*

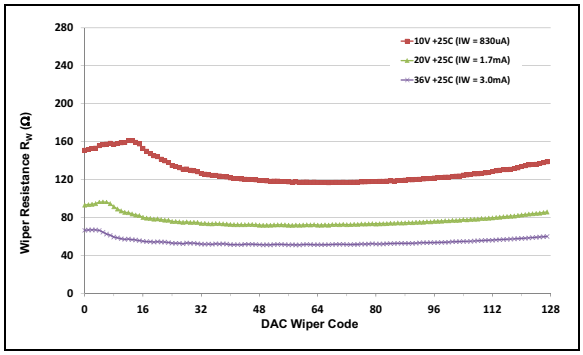


***FIGURE 1-107:*** *Wiper Resistance ($R_W$) vs. Wiper Setting @ 29°C (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 3.0 mA**, **V+ = 20V and $I_W$ = 1.7 mA**, **V+ = 10V and $I_W$ = 830A**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

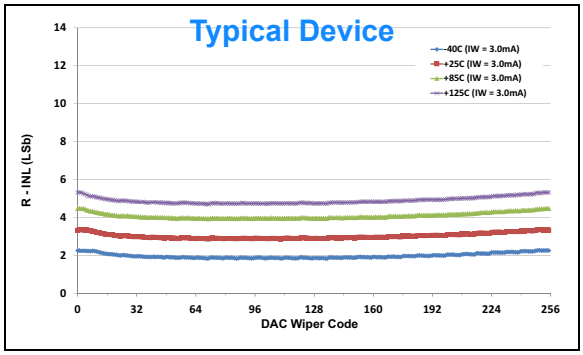


***FIGURE 1-108:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 3.0 mA**).*

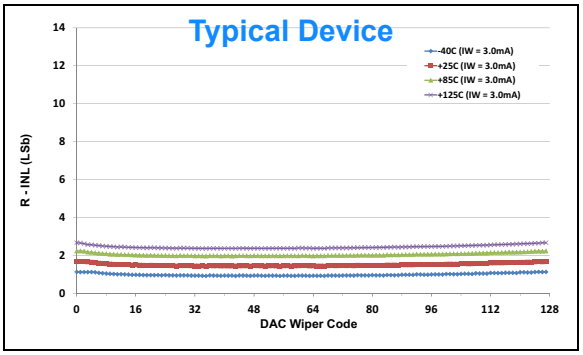


***FIGURE 1-111:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 3.0 mA**).*

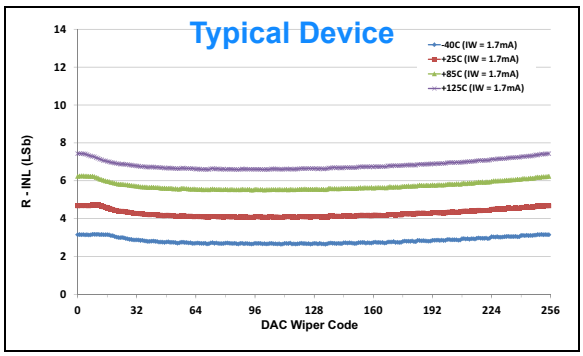


***FIGURE 1-109:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 1.7 mA**).*

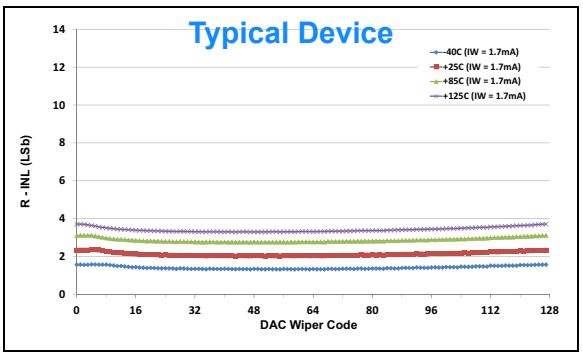


***FIGURE 1-112:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 1.7 mA**).*

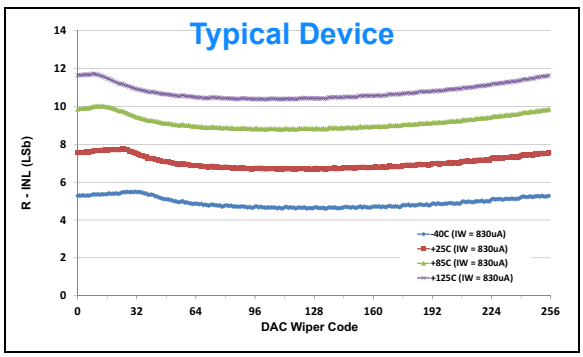


***FIGURE 1-110:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 830 µA**).*

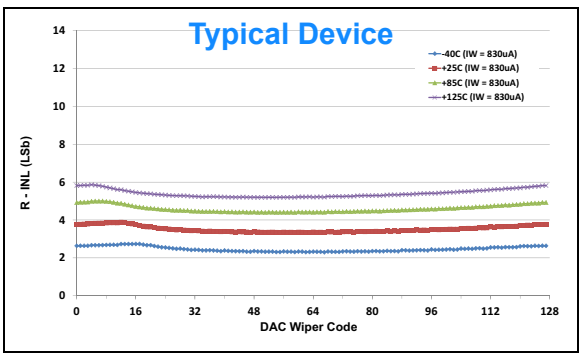


***FIGURE 1-113:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 830 µA**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V

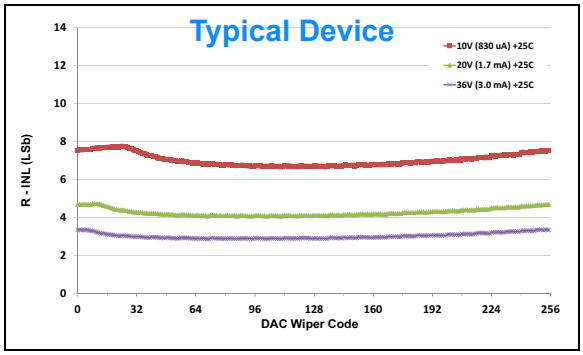


***FIGURE 1-114:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting (@ 25°C) (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 3.0 mA**, **V+ = 20V and $I_W$ = 1.7 mA**, **V+ = 10V and $I_W$ = 830 µA**).*

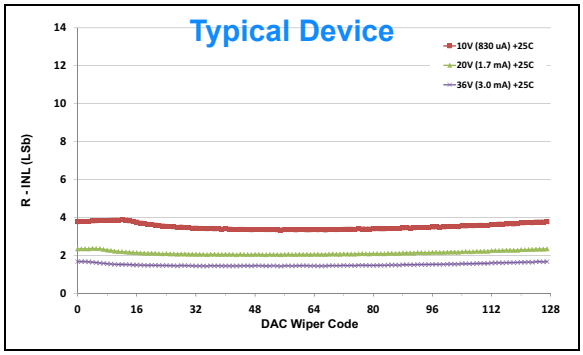


***FIGURE 1-115:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting (@ 25°C) (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 3.0 mA**, **V+ = 20V and $I_W$ = 1.7 mA**, **V+ = 10V and $I_W$ = 830 µA**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

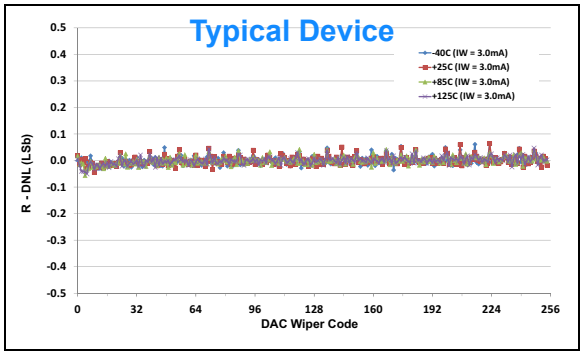


***FIGURE 1-116:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 3.0 mA**).*

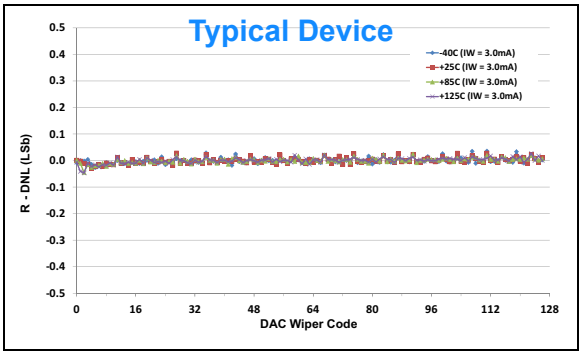


***FIGURE 1-119:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 3.0 mA**).*

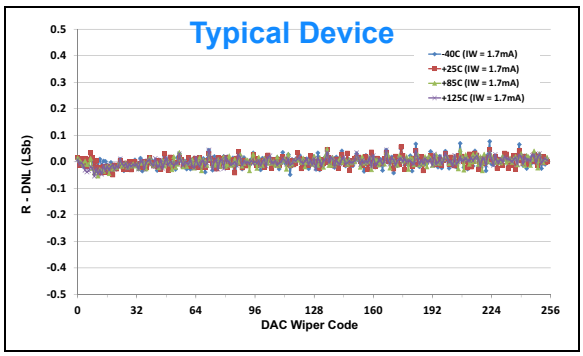


***FIGURE 1-117:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 1.7 mA**).*

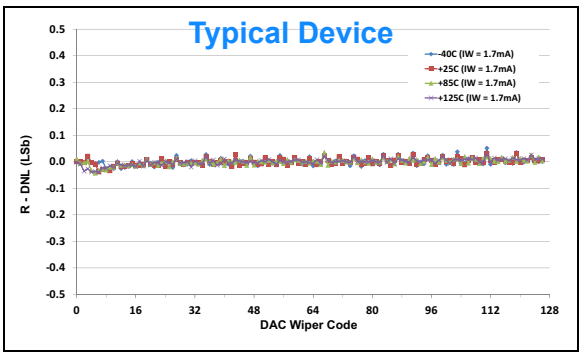


***FIGURE 1-120:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 1.7 mA**).*

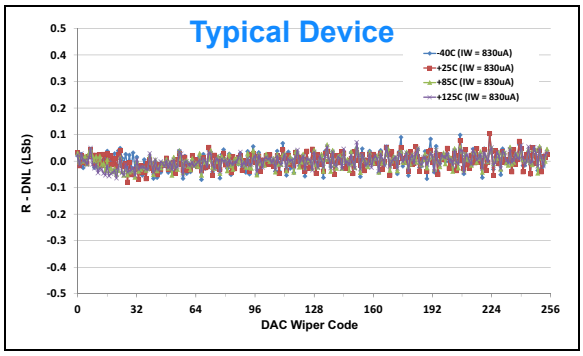


***FIGURE 1-118:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 830 µA**).*

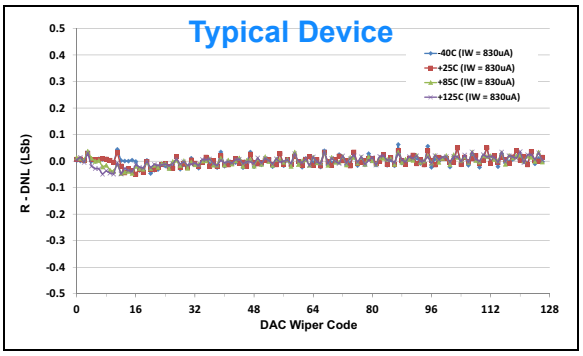


***FIGURE 1-121:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 830 µA**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

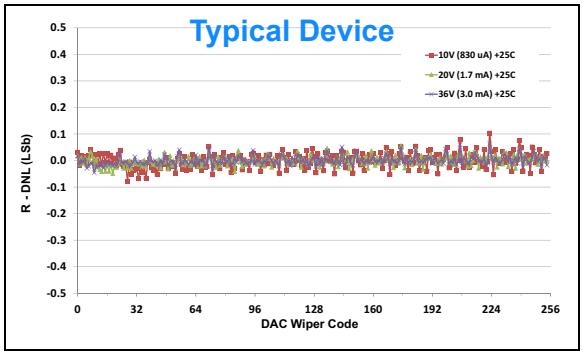


***FIGURE 1-122:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting (@ 25°C) (**10.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 3.0 mA**, **V+ = 20V and $I_W$ = 1.7 mA**, **V+ = 10V and $I_W$ = 830 µA**).*

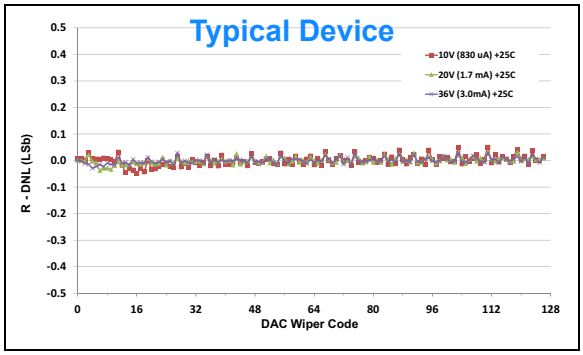


***FIGURE 1-123:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting (@ 25°C) (**10.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 3.0 mA**, **V+ = 20V and $I_W$ = 1.7 mA**, **V+ = 10V and $I_W$ = 830 µA**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

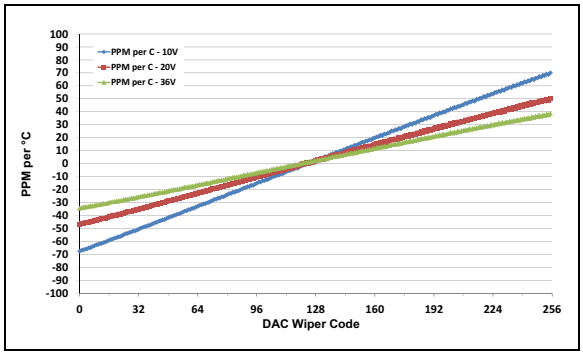


***FIGURE 1-124:*** *$V_W$ PPM / °C (Pot. Mode) vs. Temperature, and V+ Voltage*
*( ( ($V_{W(code=n, 125°C)}$ - $V_{W(code=n, -40°C)}$ ) / $V_{W(code=255, 25°C)}$ ) * 1,000,000 / 165°C )*
*(10.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, 20V, 10V).*

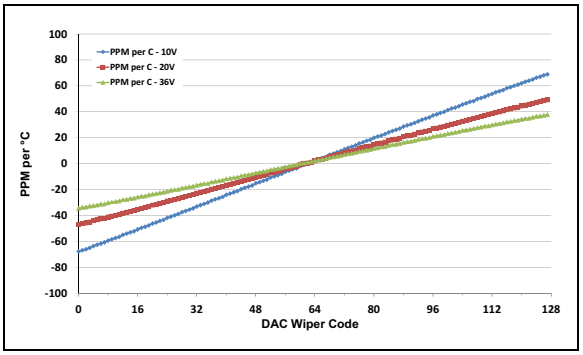


***FIGURE 1-125:*** *$V_W$ PPM / °C (Pot. Mode) vs. Temperature, and V+ Voltage*
*( ( ($V_{W(code=n, 125°C)}$ - $V_{W(code=n, -40°C)}$ ) / $V_{W(code=127, 25°C)}$ ) * 1,000,000 / 165°C )*
*(10.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, 20V, 10V).*

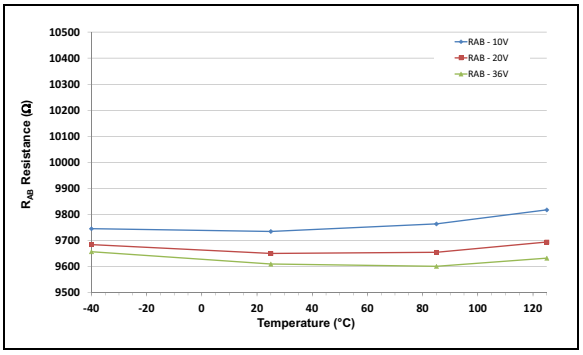


***FIGURE 1-126:*** *$R_{AB}$ Resistance vs. Temperature and V+ Voltage*
*(10.0 kΩ: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, 20V, 10V).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

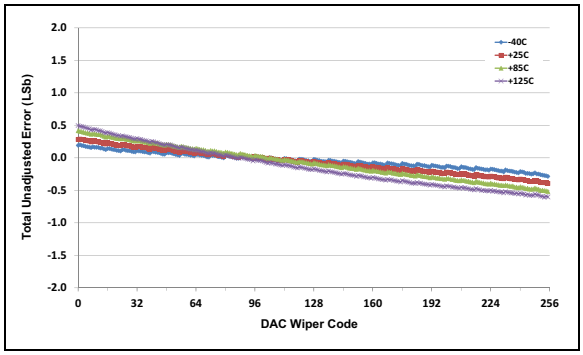


***FIGURE 1-127:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

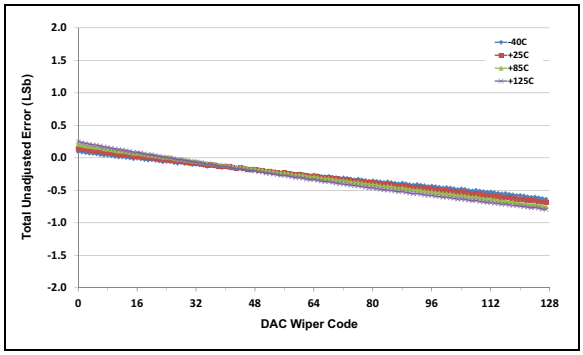


***FIGURE 1-130:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

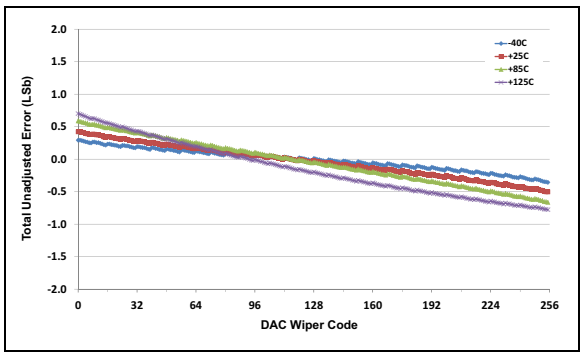


***FIGURE 1-128:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

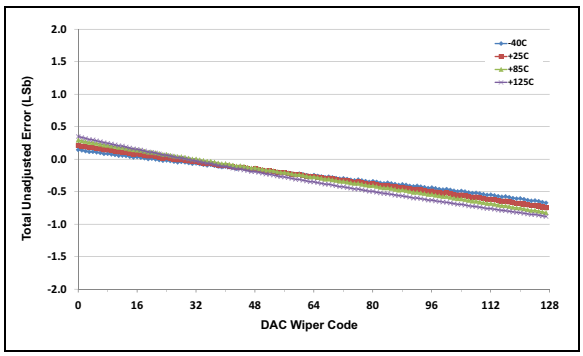


***FIGURE 1-131:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

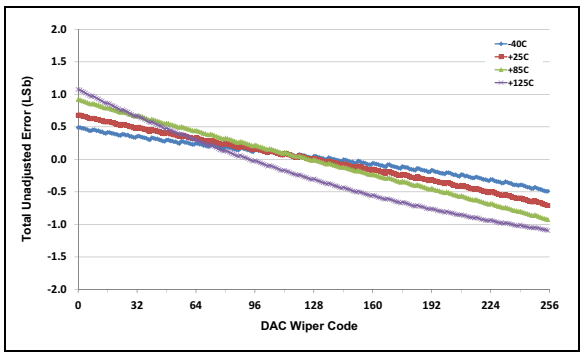


***FIGURE 1-129:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

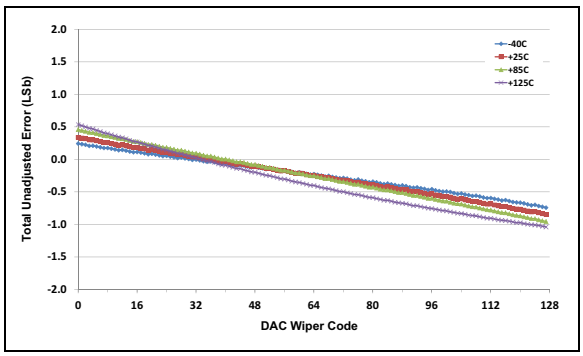


***FIGURE 1-132:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

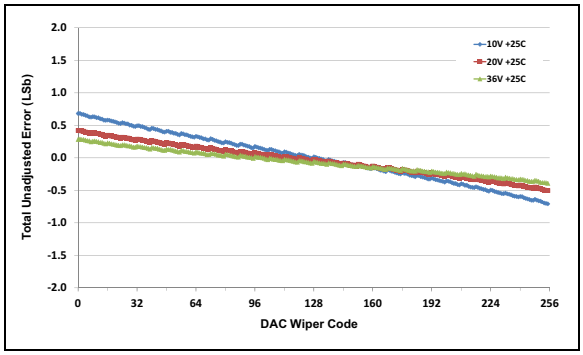


***FIGURE 1-133:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting (@ 25°C) (**50.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

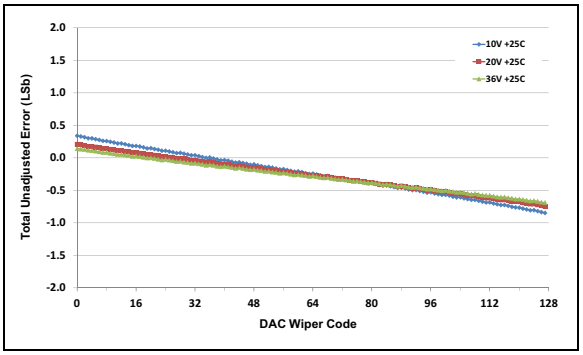


***FIGURE 1-136:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting (@ 25°C) (**50.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

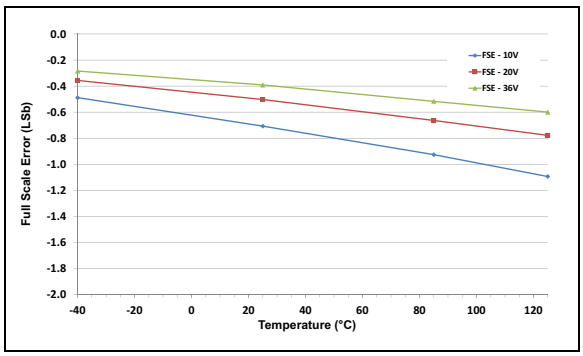


***FIGURE 1-134:*** *Full Scale Error (Pot. Mode) (FSE) vs. Temperature and V+ Voltage (**50.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

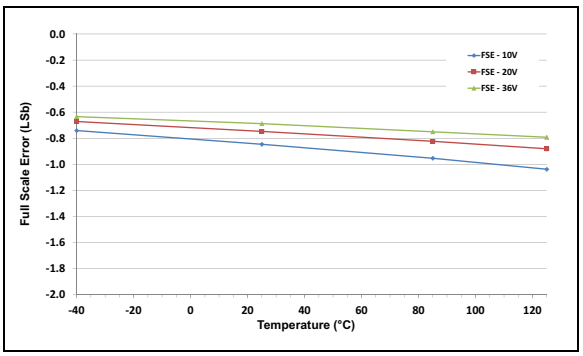


***FIGURE 1-137:*** *Full Scale Error (Pot. Mode) (FSE) vs. Temperature and V+ Voltage (**50.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

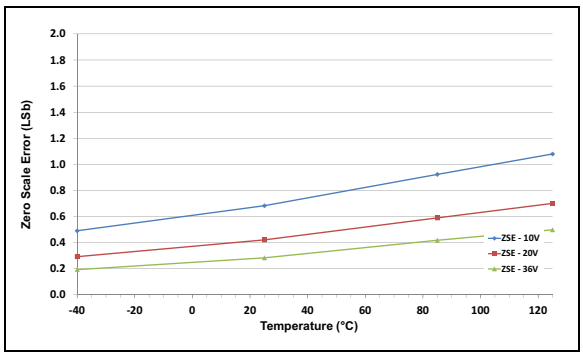


***FIGURE 1-135:*** *Zero Scale Error (Pot. Mode) (ZSE) vs. Temperature and V+ Voltage (**50.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

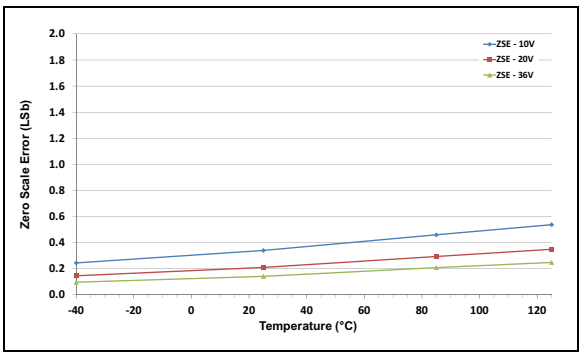


***FIGURE 1-138:*** *Zero Scale Error (Pot. Mode) (ZSE) vs. Temperature and V+ Voltage (**50.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

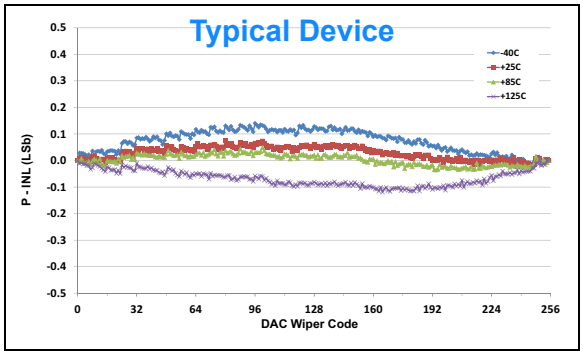


***FIGURE 1-139:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (50.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V).*

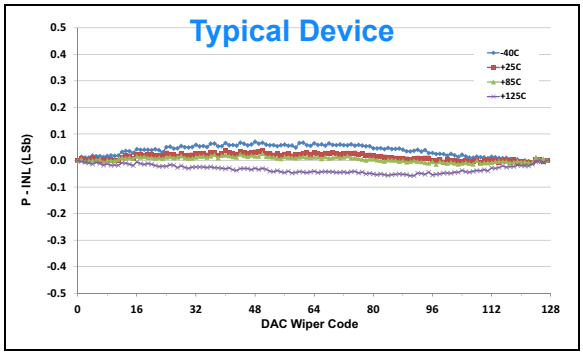


***FIGURE 1-142:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (50.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V).*

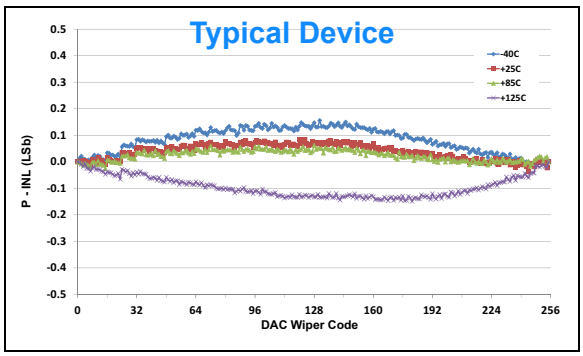


***FIGURE 1-140:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (50.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 20V).*

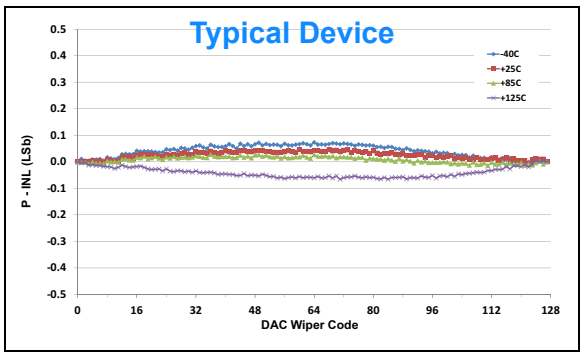


***FIGURE 1-143:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (50.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 20V).*

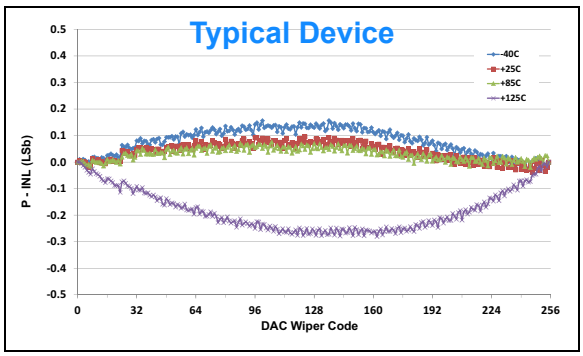


***FIGURE 1-141:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (50.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 10V).*

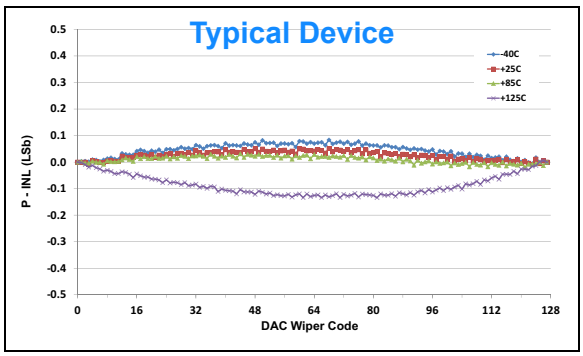


***FIGURE 1-144:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (50.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 10V).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

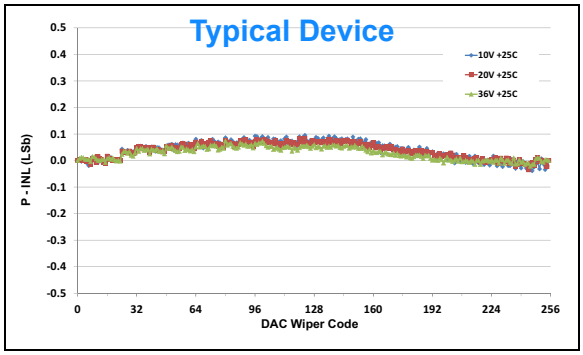


***FIGURE 1-145:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting (@ 25°C) (**50.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

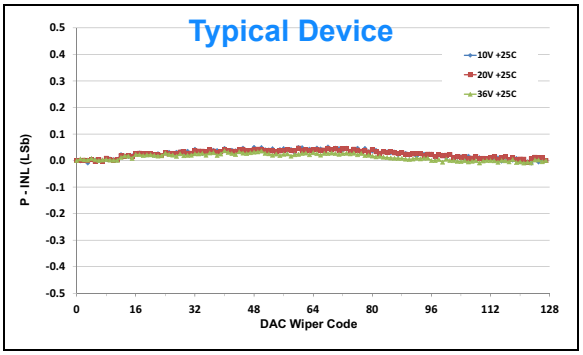


***FIGURE 1-146:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting (@ 25°C) (**50.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

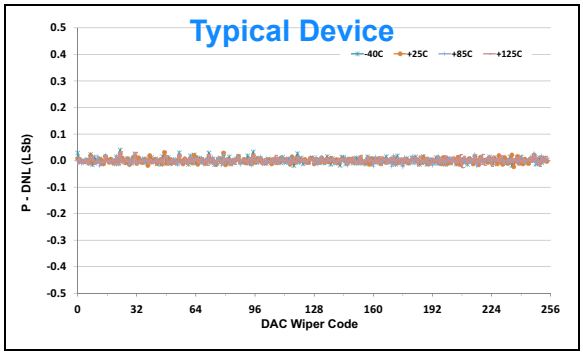


***FIGURE 1-147:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

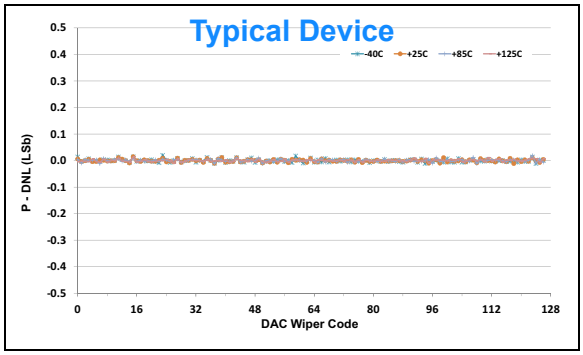


***FIGURE 1-150:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

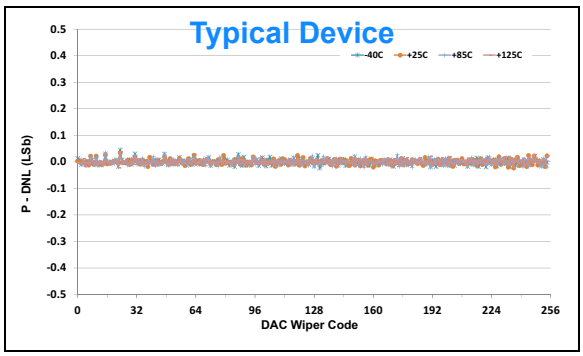


***FIGURE 1-148:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

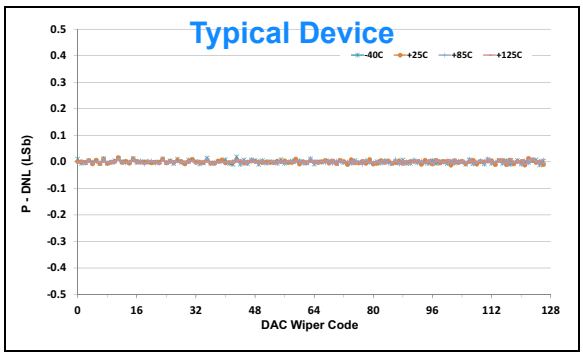


***FIGURE 1-151:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

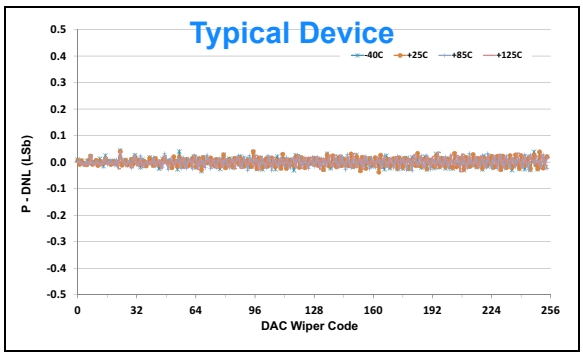


***FIGURE 1-149:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

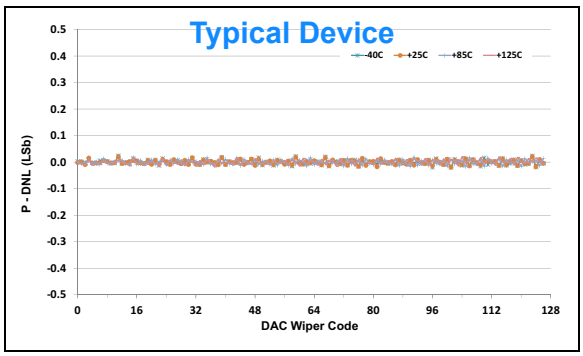


***FIGURE 1-152:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

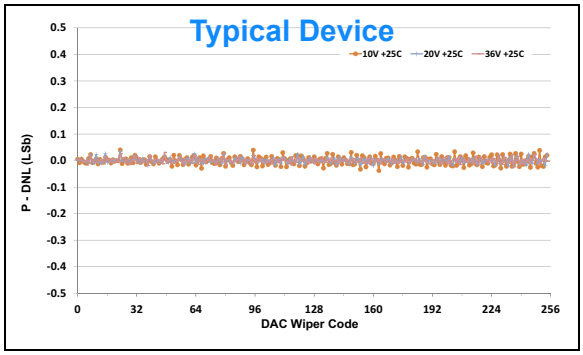


***FIGURE 1-153:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting (@ 25°C) (**50.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

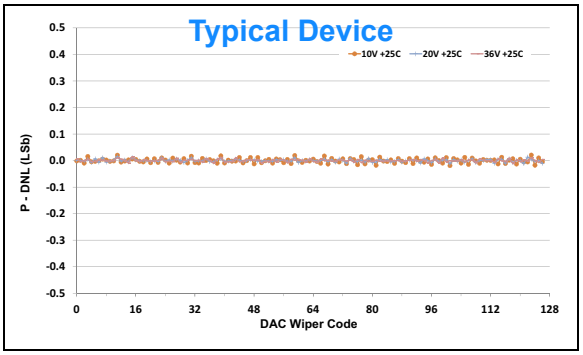


***FIGURE 1-154:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting (@ 25°C) (**50.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*


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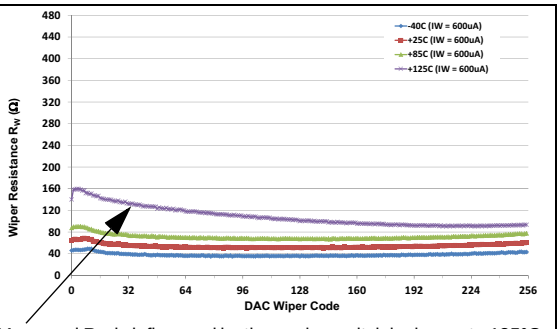
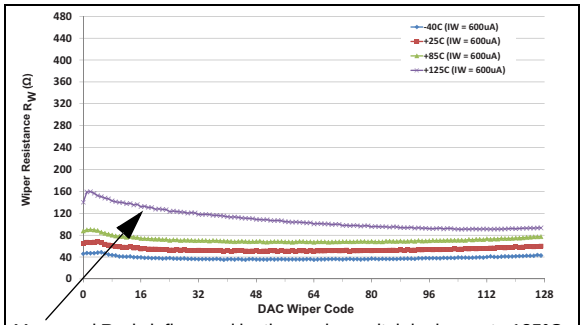
**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.



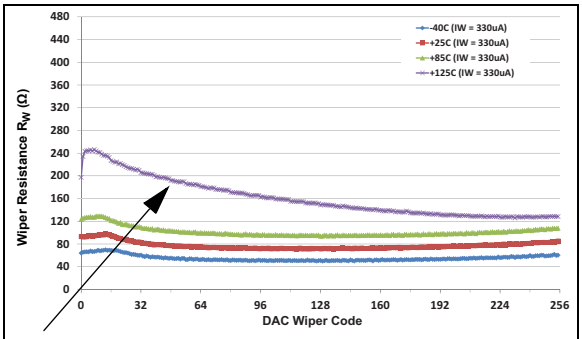

Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-155:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (50.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, $I_W$ = 600 µA).*



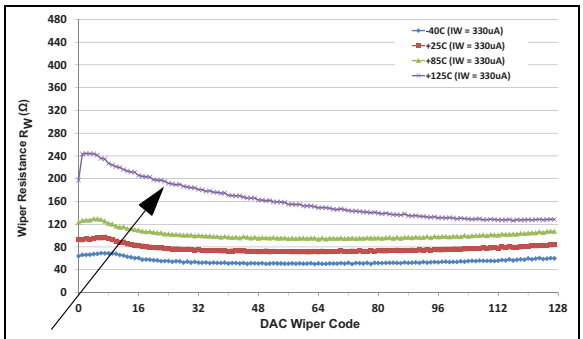

Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-158:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (50.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, $I_W$ = 600 µA).*



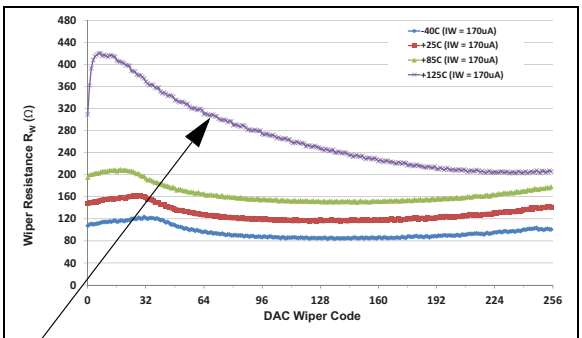

Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-156:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (50.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 20V, $I_W$ = 330 µA).*



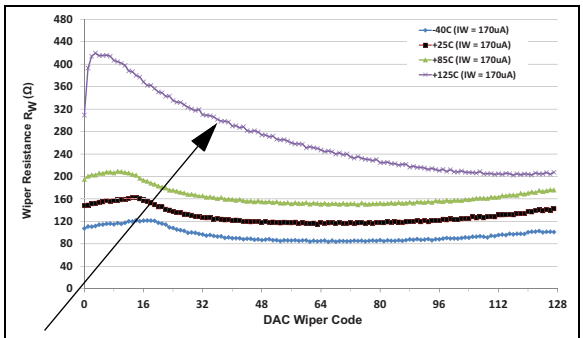

Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-159:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (50.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 20V, $I_W$ = 330 µA).*




Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-157:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (50.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 10V, $I_W$ = 170 µA).*




Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-160:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (50.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 10V, $I_W$ = 170 µA).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

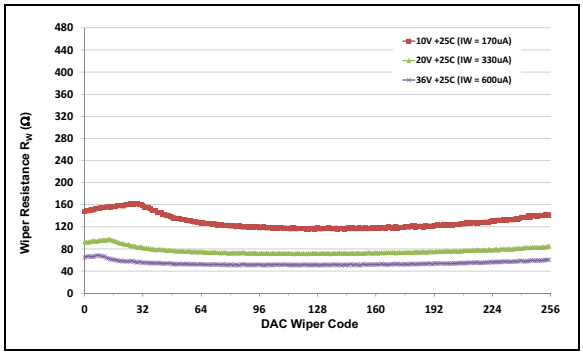



***FIGURE 1-161:*** *Wiper Resistance ($R_W$) vs. Wiper Setting @ 29°C (50.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V and $I_W$ = 600 µA, V+ = 20V and $I_W$ = 330 µA, V+ = 10V and $I_W$ = 170 µA).*

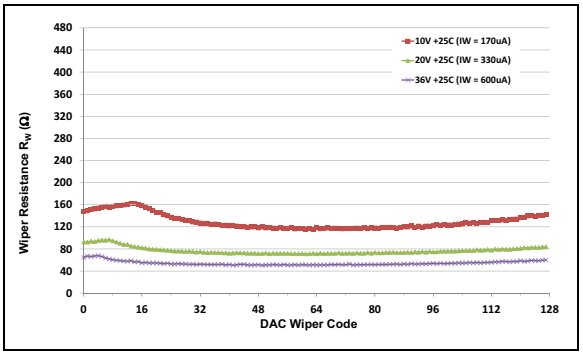



***FIGURE 1-162:*** *Wiper Resistance ($R_W$) vs. Wiper Setting @ 29°C (50.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V and $I_W$ = 600 µA, V+ = 20V and $I_W$ = 330 µA, V+ = 10V and $I_W$ = 170 µA).*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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

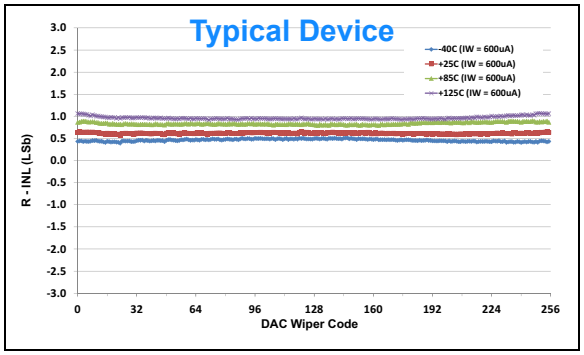


***FIGURE 1-163:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 600 µA**).*

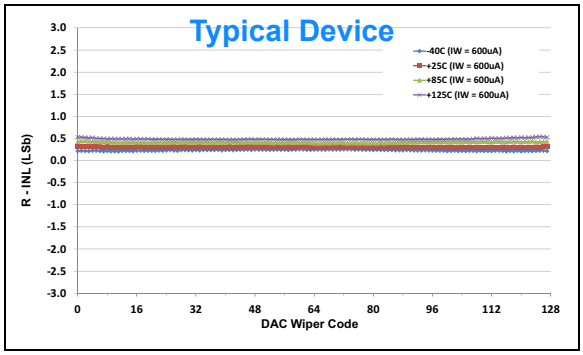


***FIGURE 1-166:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 600 µA**).*

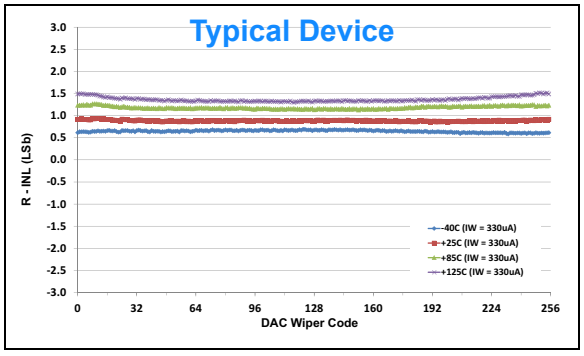


***FIGURE 1-164:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 330 µA**).*

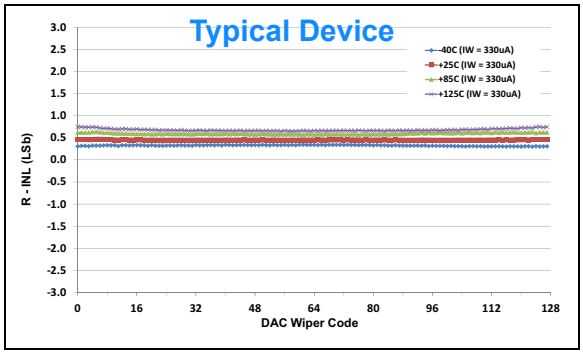


***FIGURE 1-167:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 330 µA**).*

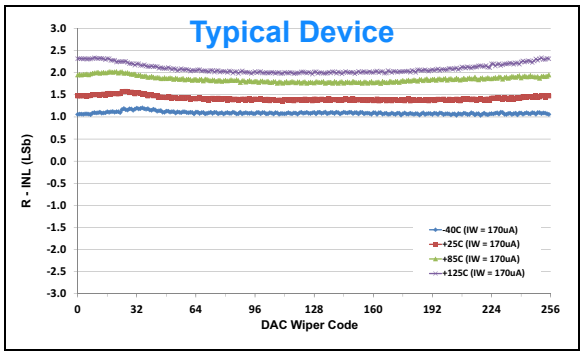


***FIGURE 1-165:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 170 µA**).*

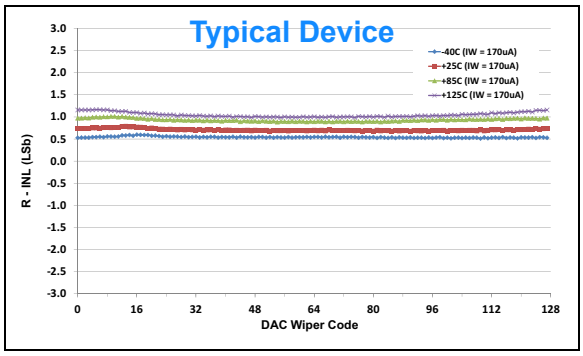


***FIGURE 1-168:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 170 µuA**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V

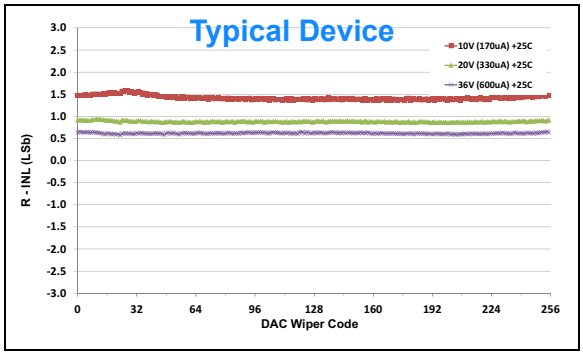


***FIGURE 1-169:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting (@ 25°C) (50.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V and $I_W$ = 600 µA, V+ = 20V and $I_W$ = 330 µA, V+ = 10V and $I_W$ = 170 µA).*

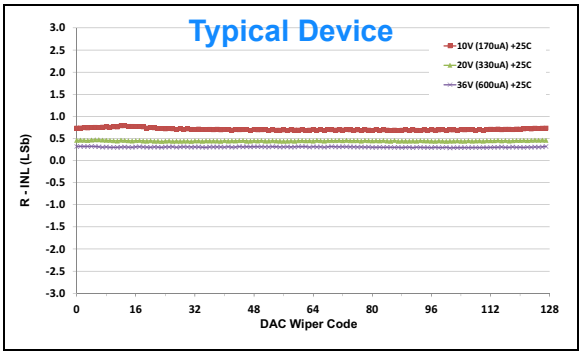


***FIGURE 1-170:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting (@ 25°C) (50.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V and $I_W$ = 600 µA, V+ = 20V and $I_W$ = 330 µA, V+ = 10V and $I_W$ = 170 µA).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

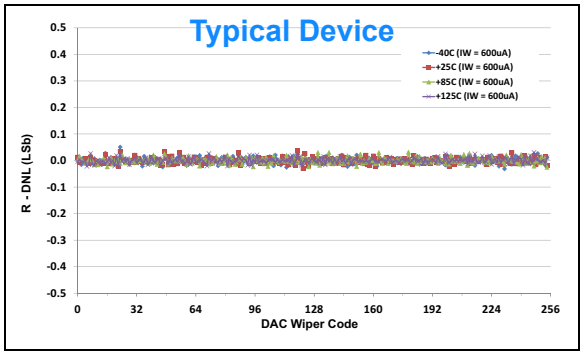


***FIGURE 1-171:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 600 µA**).*

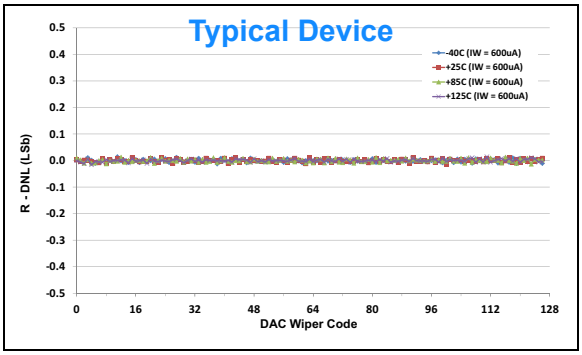


***FIGURE 1-174:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 600 µA**).*

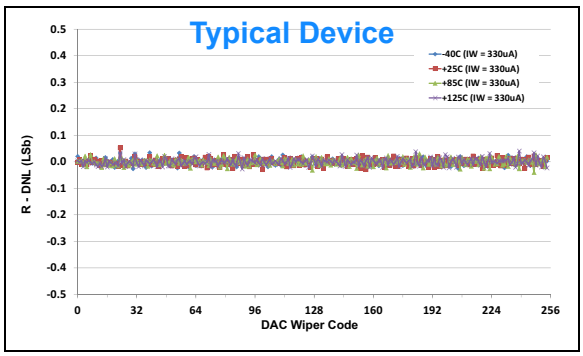


***FIGURE 1-172:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 330 µA**).*

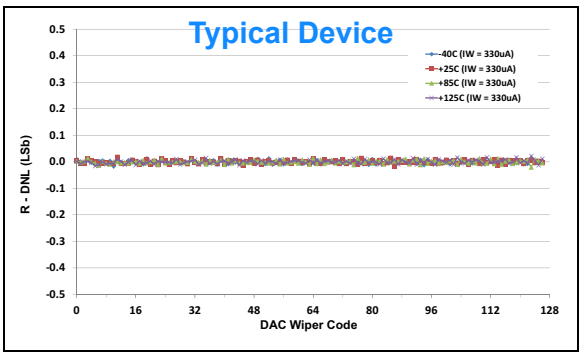


***FIGURE 1-175:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 330 µA**).*

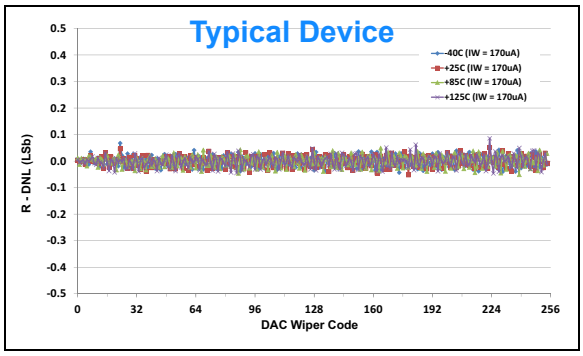


***FIGURE 1-173:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 170 µA**).*

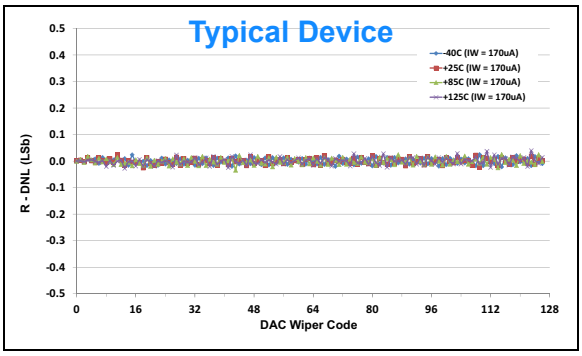


***FIGURE 1-176:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**50.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 170 µA**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

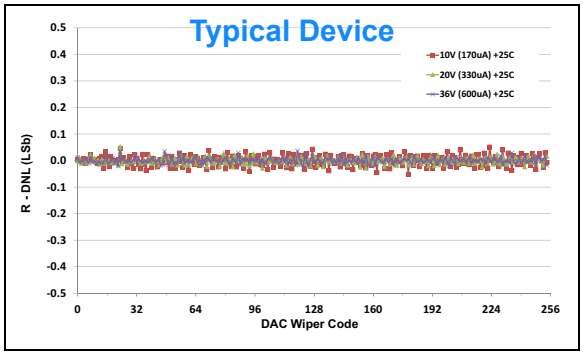


***FIGURE 1-177:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting (@ 25°C) (50.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V and $I_W$ = 600 µA, V+ = 20V and $I_W$ = 330 A, V+ = 10V and $I_W$ = 170 µA).*

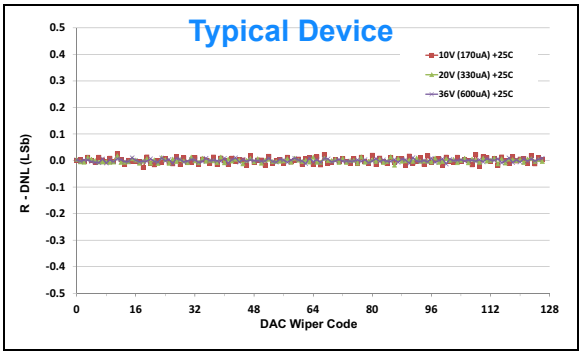


***FIGURE 1-178:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting (@ 25°C) (50.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V and $I_W$ = 600 µA, V+ = 20V and $I_W$ = 330 µA, V+ = 10V and $I_W$ = 170 µA).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

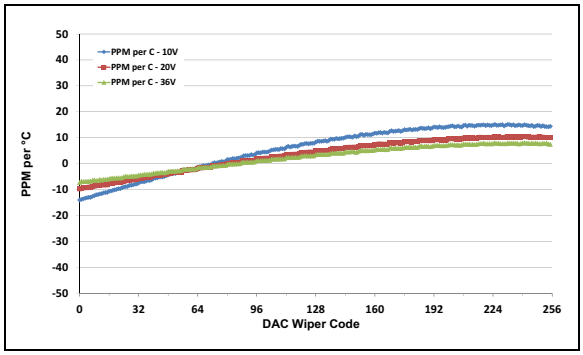


***FIGURE 1-179:*** *$V_W$ PPM / °C (Pot. Mode) vs. Temperature, and V+ Voltage ( ( ($V_{W(code=n, 125°C)}$ - $V_{W(code=n, -40°C)}$ ) / $V_{W(code=255, 25°C)}$ ) * 1,000,000 / 165°C ) (50.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, 20V, 10V).*

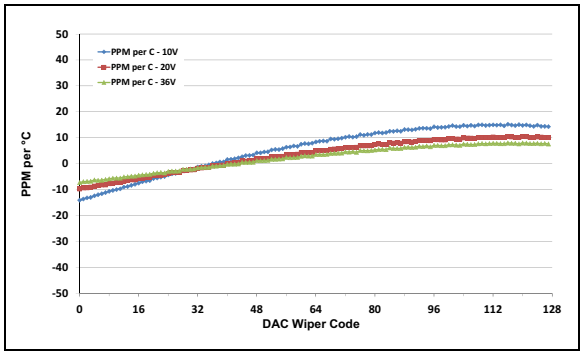


***FIGURE 1-180:*** *$V_W$ PPM / °C (Pot. Mode) vs. Temperature, and V+ Voltage ( ( ($V_{W(code=n, 125°C)}$ - $V_{W(code=n, -40°C)}$ ) / $V_{W(code=127, 25°C)}$ ) * 1,000,000 / 165°C ) (50.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, 20V, 10V).*

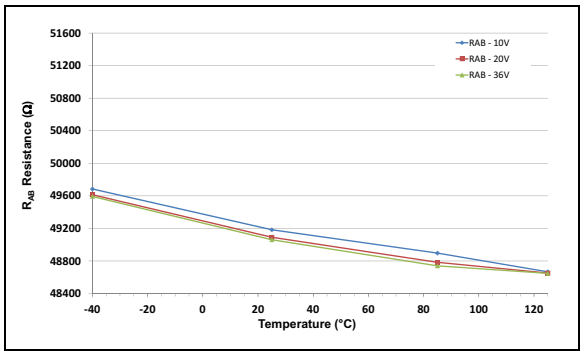


***FIGURE 1-181:*** *$R_{AB}$ Resistance vs. Temperature and V+ Voltage (50.0 kΩ: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, 20V, 10V).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

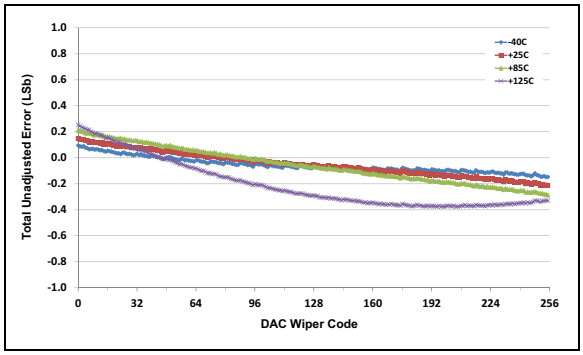


***FIGURE 1-182:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

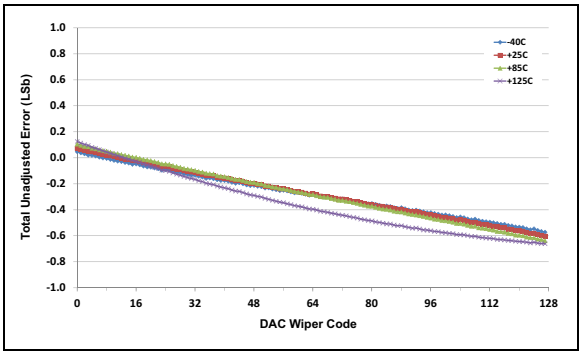


***FIGURE 1-185:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

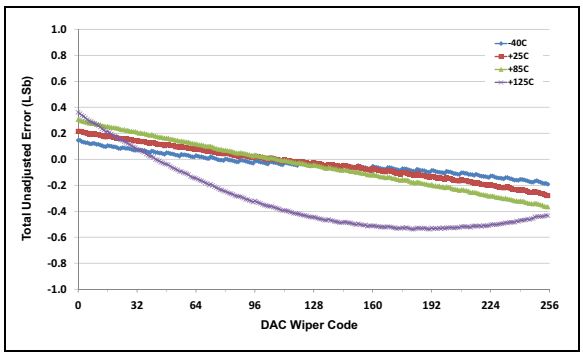


***FIGURE 1-183:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

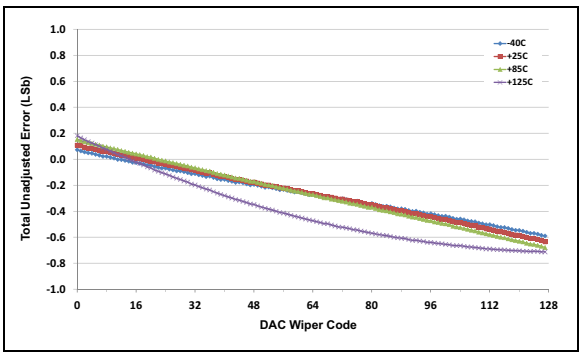


***FIGURE 1-186:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

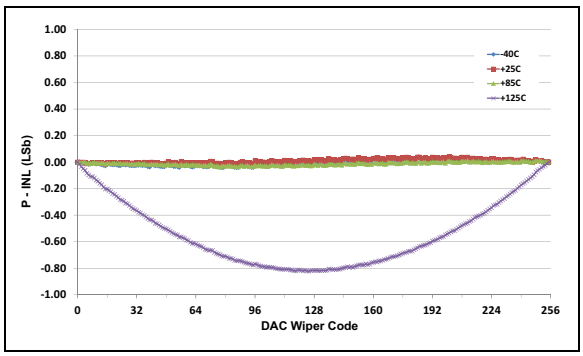


***FIGURE 1-184:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

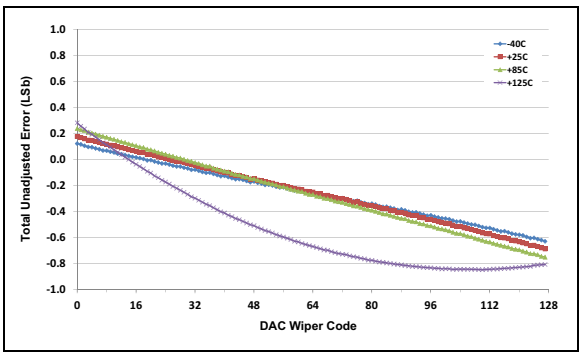


***FIGURE 1-187:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

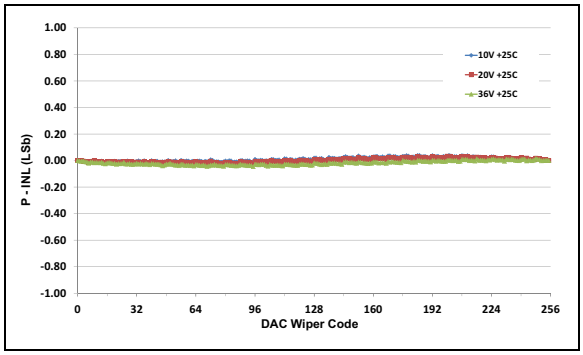


***FIGURE 1-188:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting (@ 25°C) (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

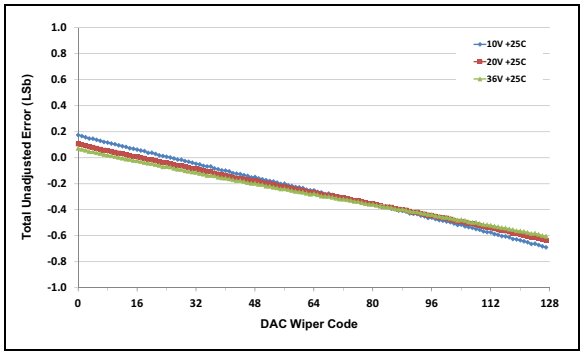


***FIGURE 1-191:*** *Total Unadjusted Error (Pot. Mode) ($V_W$) vs. Wiper Setting (@ 25°C) (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

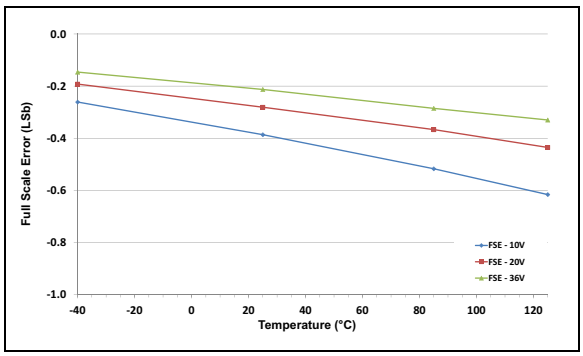


***FIGURE 1-189:*** *Full Scale Error (Pot. Mode) (FSE) vs. Temperature and V+ Voltage (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

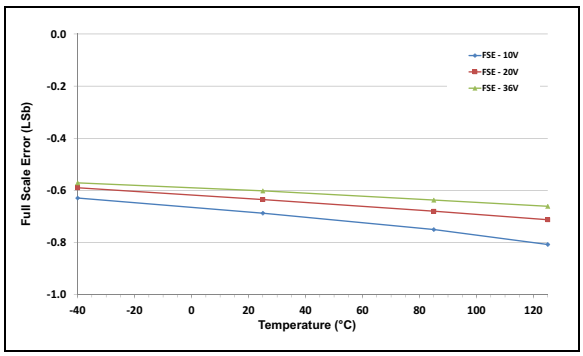


***FIGURE 1-192:*** *Full Scale Error (Pot. Mode) (FSE) vs. Temperature and V+ Voltage (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

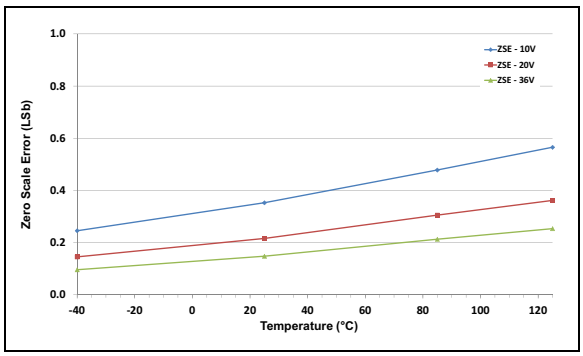


***FIGURE 1-190:*** *Zero Scale Error (Pot. Mode) (ZSE) vs. Temperature and V+ Voltage (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

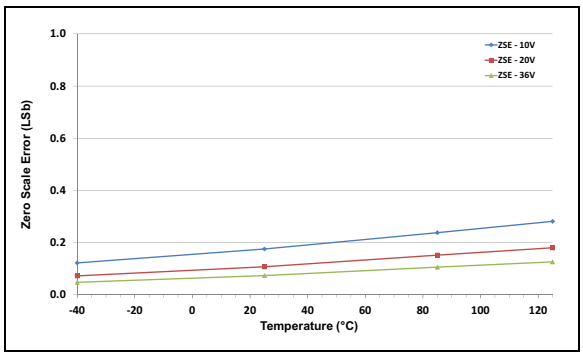


***FIGURE 1-193:*** *Zero Scale Error (Pot. Mode) (ZSE) vs. Temperature and V+ Voltage (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

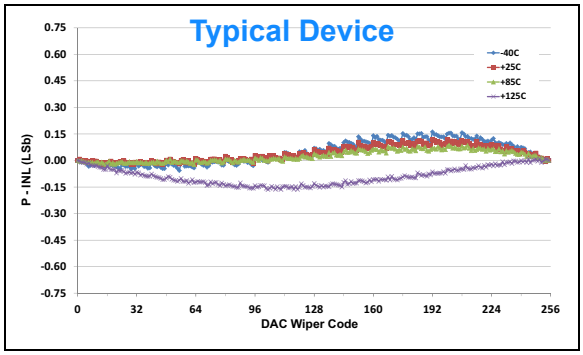


***FIGURE 1-194:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

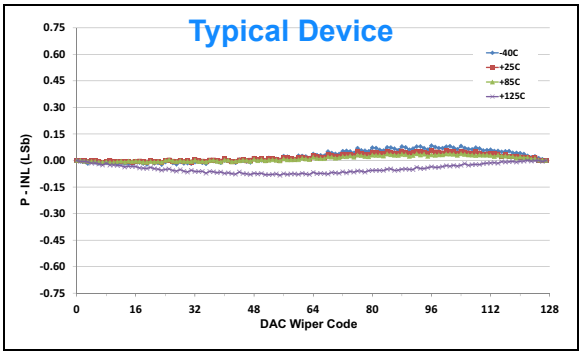


***FIGURE 1-197:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

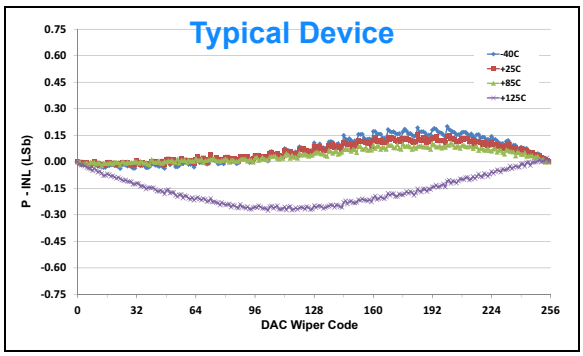


***FIGURE 1-195:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

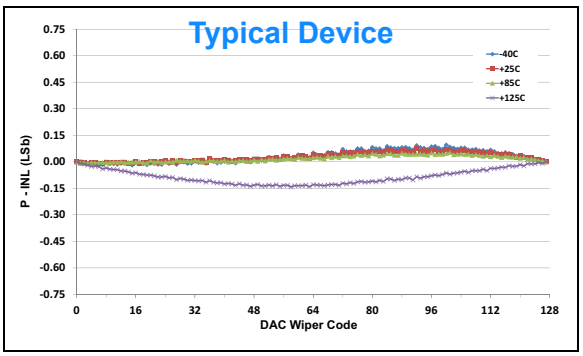


***FIGURE 1-198:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

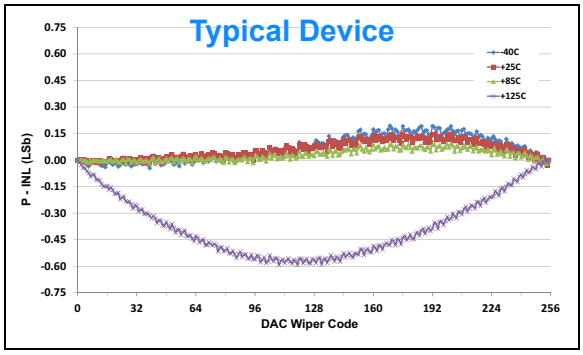


***FIGURE 1-196:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

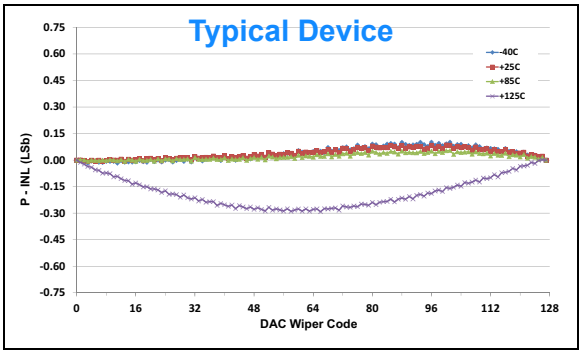


***FIGURE 1-199:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

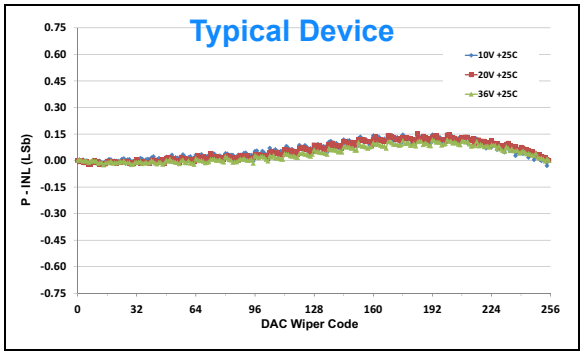


***FIGURE 1-200:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting (@ 25°C) (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

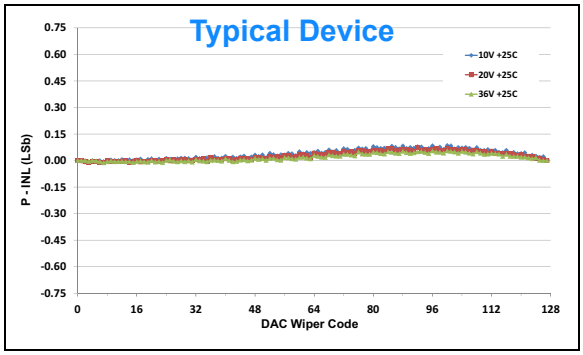


***FIGURE 1-201:*** *INL Error - Pot. Mode (P-INL) vs. Wiper Setting (@ 25°C) (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

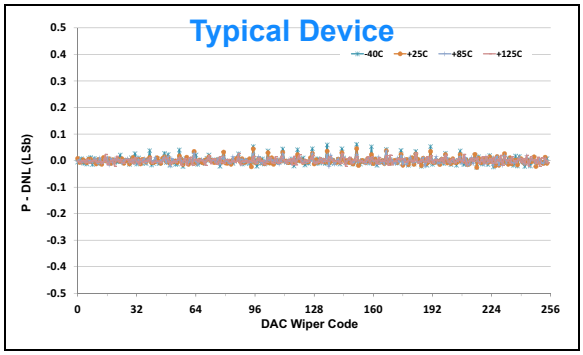


***FIGURE 1-202:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

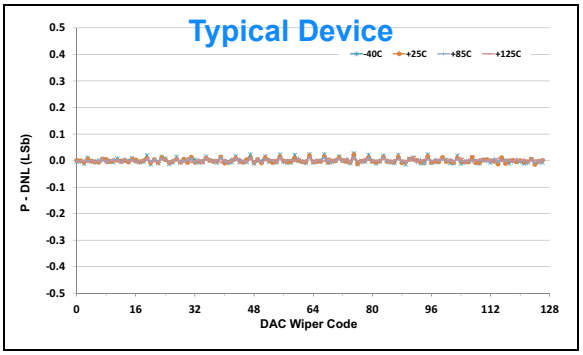


***FIGURE 1-205:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**).*

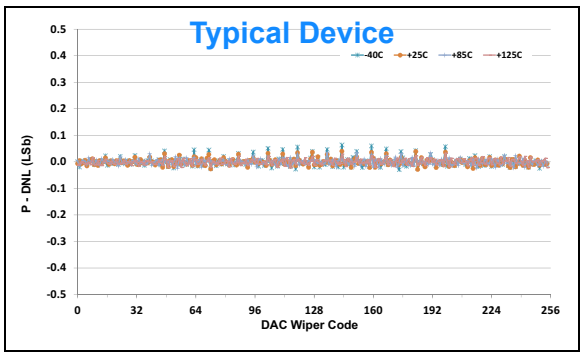


***FIGURE 1-203:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

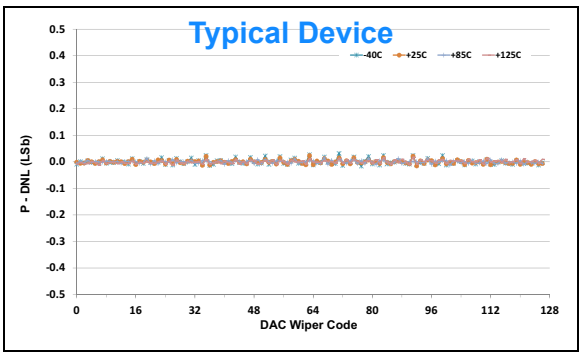


***FIGURE 1-206:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V**).*

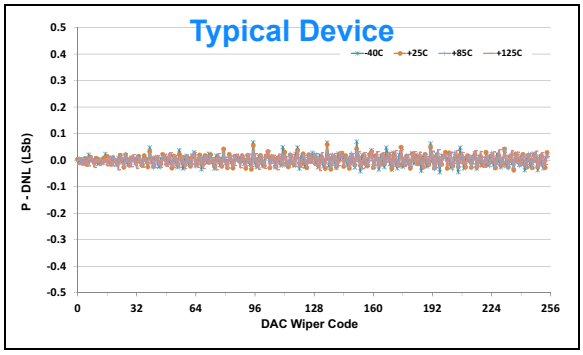


***FIGURE 1-204:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*

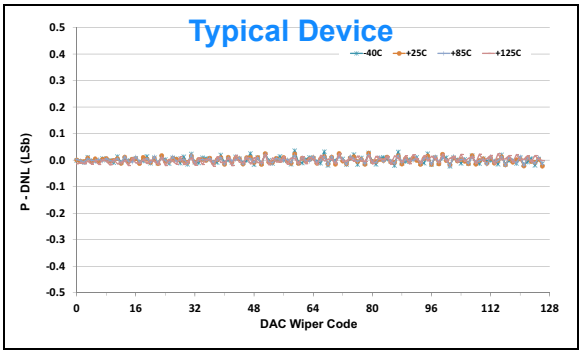


***FIGURE 1-207:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

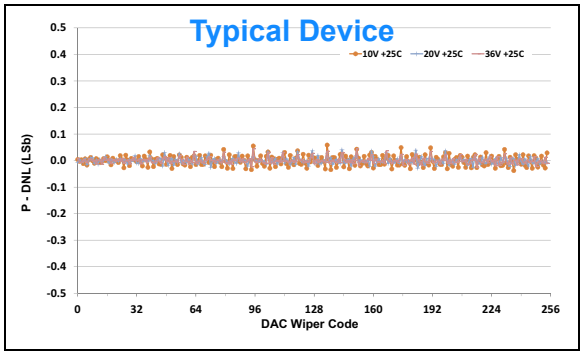



***FIGURE 1-208:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting (@ 25°C) (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

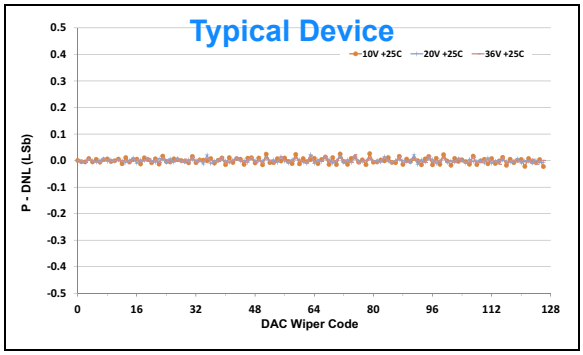
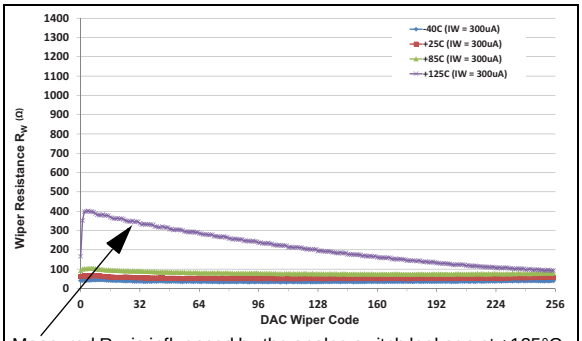


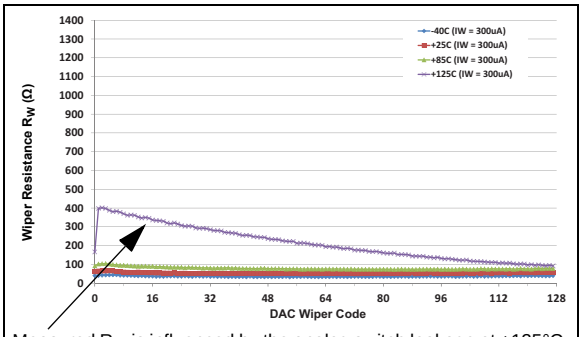

***FIGURE 1-209:*** *DNL Error - Pot. Mode (P-DNL) vs. Wiper Setting (@ 25°C) (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V**, **20V**, **10V**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.



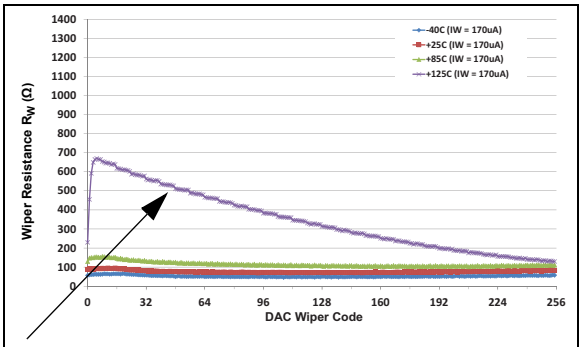

Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-210:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 300 µA**).*



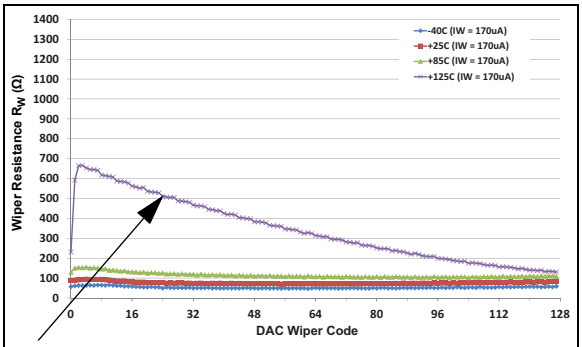

Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-213:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 300 µA**).*



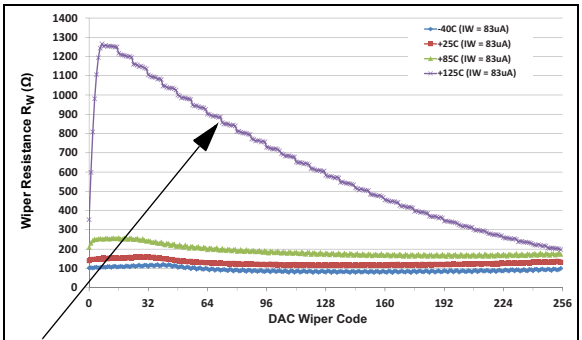

Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-211:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 170 µA**).*



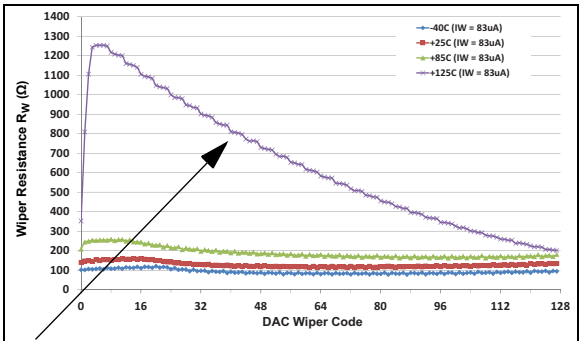

Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-214:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 170 µA**).*




Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-212:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 83 µA**).*




Measured $R_W$ is influenced by the analog switch leakage at +125°C. See Section 5.2.1 of the MCP41HVX1 data sheet (DS20005207A) for additional information.

***FIGURE 1-215:*** *Wiper Resistance ($R_W$) vs. Wiper Setting and Temperature (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 83 µA**).*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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

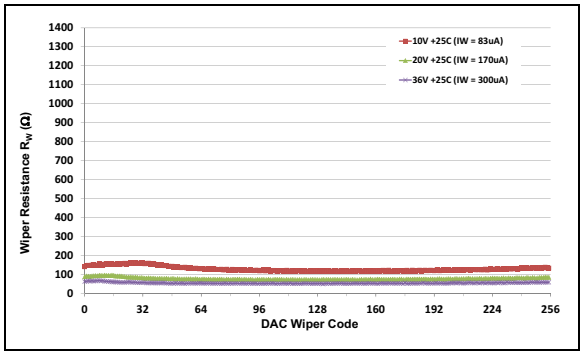


***FIGURE 1-216:*** *Wiper Resistance ($R_W$) vs. Wiper Setting @ 29°C (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 300 µA**, **V+ = 20V and $I_W$ = 170 µA**, **V+ = 10V and $I_W$ = 83 µA**).*

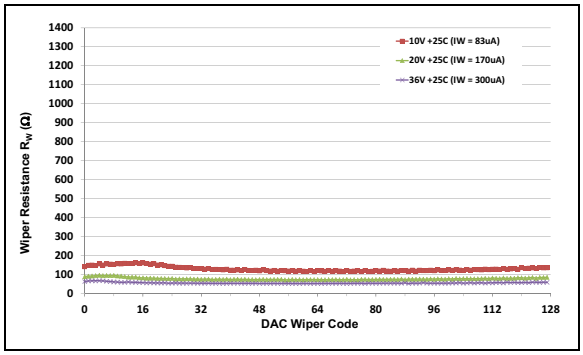


***FIGURE 1-217:*** *Wiper Resistance ($R_W$) vs. Wiper Setting @ 29°C (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 300 µA**, **V+ = 20V and $I_W$ = 170 µA**, **V+ = 10V and $I_W$ = 83 µA**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

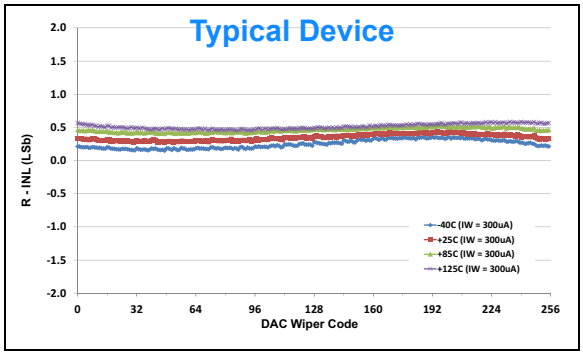


***FIGURE 1-218:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 300 µA**).*

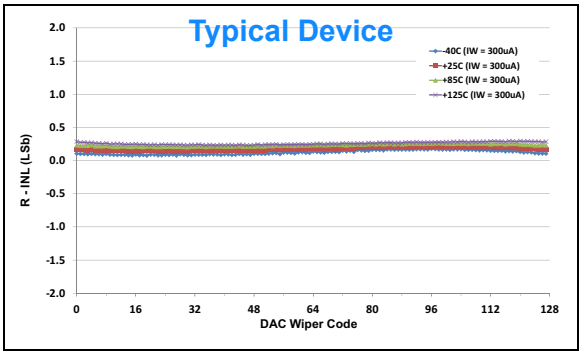


***FIGURE 1-221:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 300 µA**).*

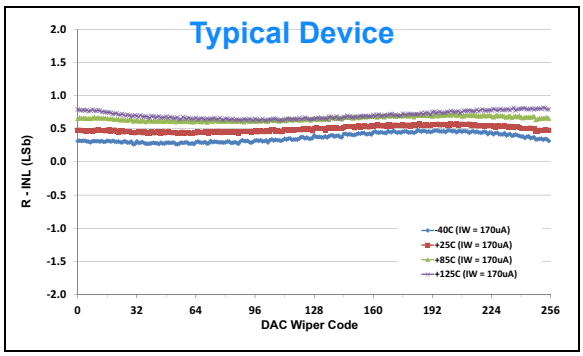


***FIGURE 1-219:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 170 µA**).*

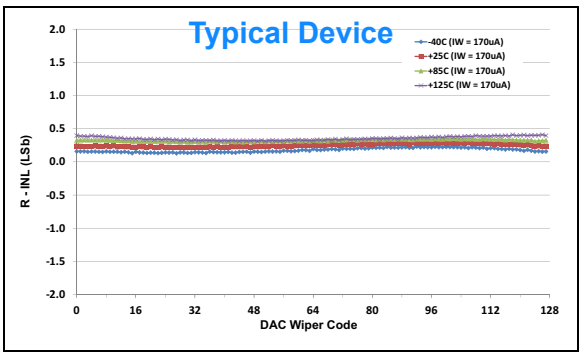


***FIGURE 1-222:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 170 µA**).*

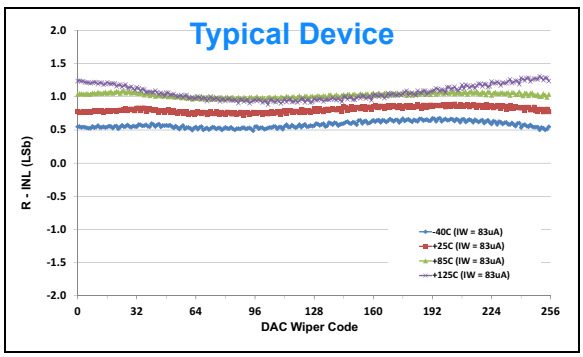


***FIGURE 1-220:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 83 µA**).*

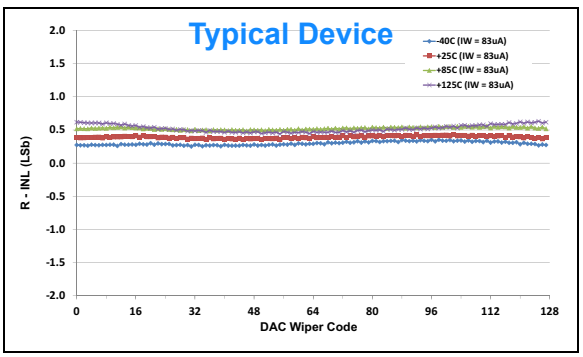


***FIGURE 1-223:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting and Temperature (**100.0 kΩ**, **7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 83 µA**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V

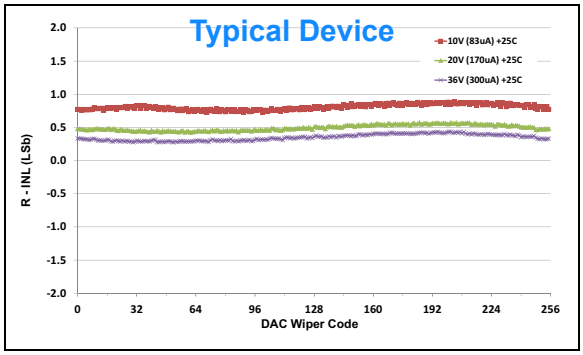


***FIGURE 1-224:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting (@ 25°C) (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 300 µA**, **V+ = 20V and $I_W$ = 170 µA**, **V+ = 10V and $I_W$ = 83 µA**).*

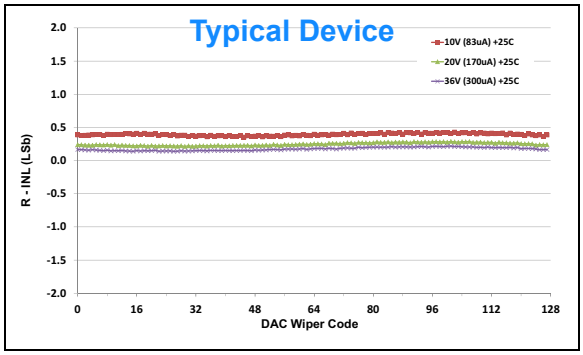


***FIGURE 1-225:*** *INL Error - Rheo. Mode (R-INL) vs. Wiper Setting (@ 25°C) (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 300 µA**, **V+ = 20V and $I_W$ = 170 µA**, **V+ = 10V and $I_W$ = 83 µA**).*

**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

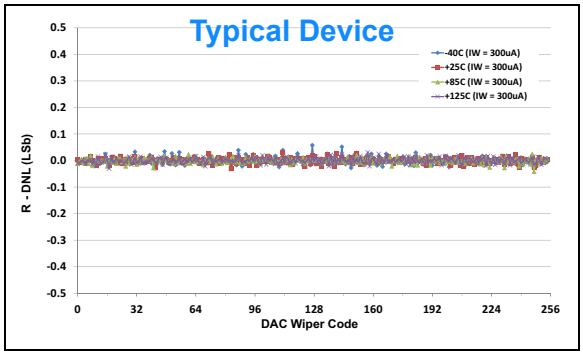


***FIGURE 1-226:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 300 µA**).*

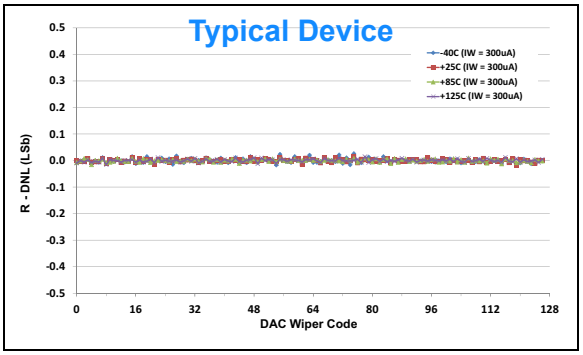


***FIGURE 1-229:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V, $I_W$ = 300 µA**).*

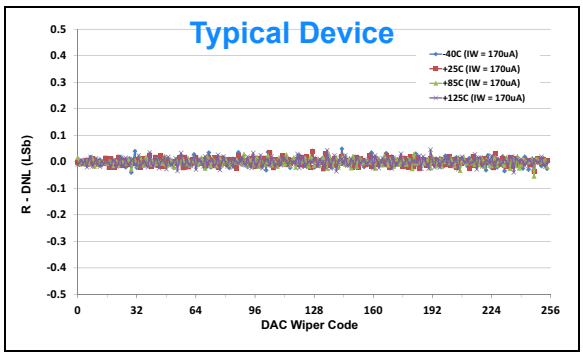


***FIGURE 1-227:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 170 µA**).*

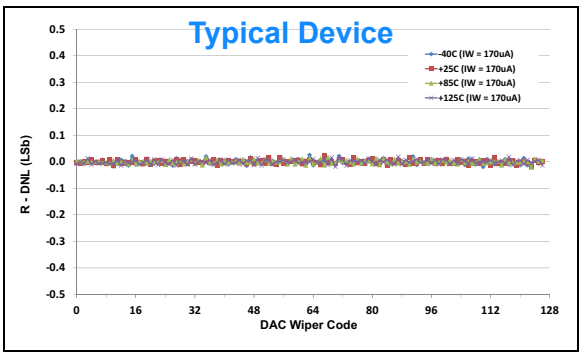


***FIGURE 1-230:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 20V, $I_W$ = 170 µA**).*

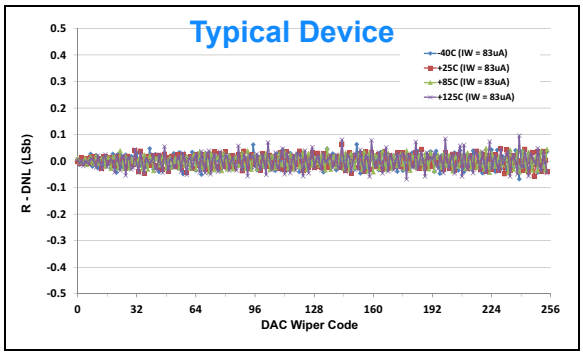


***FIGURE 1-228:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 83 µA**).*

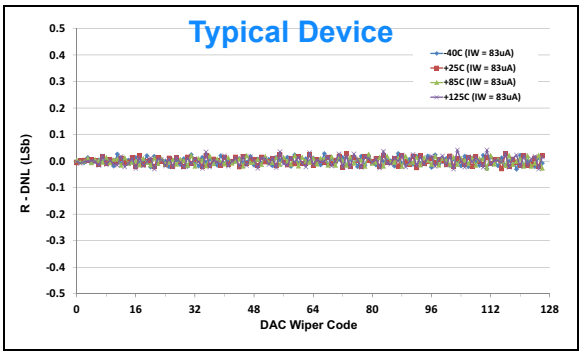


***FIGURE 1-231:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting and Temperature (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 10V, $I_W$ = 83 µA**).*


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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

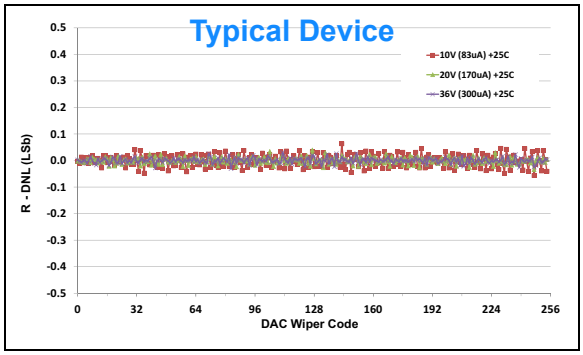


***FIGURE 1-232:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting (@ 25°C) (**100.0 kΩ, 8-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 300 µA**, **V+ = 20V and $I_W$ = 170 µA**, **V+ = 10V and $I_W$ = 83 µA**).*

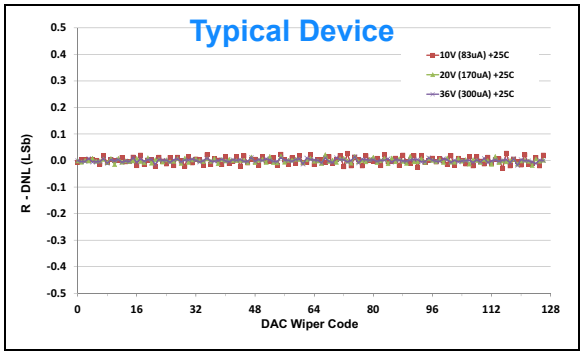


***FIGURE 1-233:*** *DNL Error - Rheo. Mode (R-DNL) vs. Wiper Setting (@ 25°C) (**100.0 kΩ, 7-bit**: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, **V+ = 36V and $I_W$ = 300 µA**, **V+ = 20V and $I_W$ = 170 µA**, **V+ = 10V and $I_W$ = 83 µA**).*

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**Note:** Unless otherwise indicated, $T_A$ = +25°C, $V_L$ = 5.0V, DGND = V-, V+ = 36V.

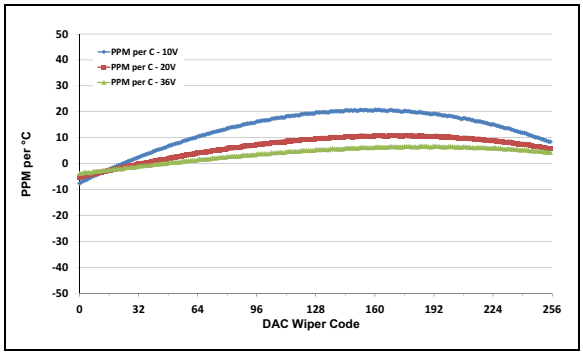


***FIGURE 1-234:*** *$V_W$ PPM / °C (Pot. Mode) vs. Temperature, and V+ Voltage ( ( ($V_{W(code=n, 125°C)}$ - $V_{W(code=n, -40°C)}$ ) / $V_{W(code=255, 25°C)}$ ) * 1,000,000 / 165°C ) (100.0 kΩ, 8-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, 20V, 10V).*

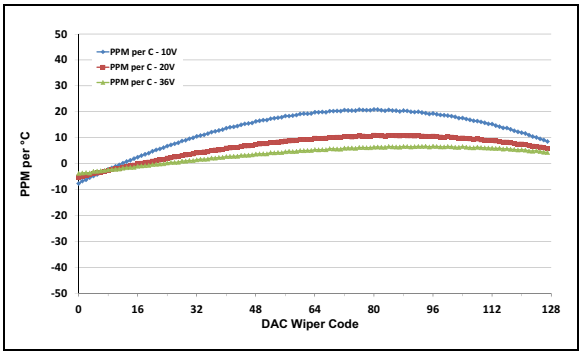


***FIGURE 1-235:*** *$V_W$ PPM / °C (Pot. Mode) vs. Temperature, and V+ Voltage ( ( ($V_{W(code=n, 125°C)}$ - $V_{W(code=n, -40°C)}$ ) / $V_{W(code=127, 25°C)}$ ) * 1,000,000 / 165°C ) (100.0 kΩ, 7-bit: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, 20V, 10V).*

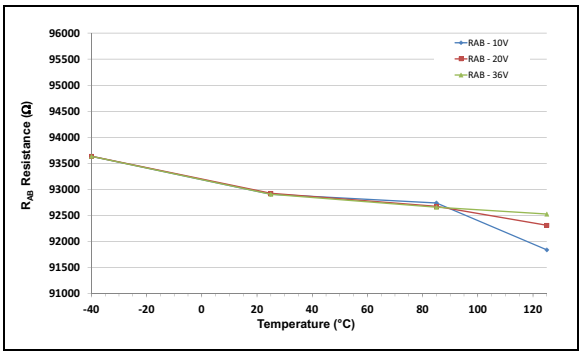


***FIGURE 1-236:*** *$R_{AB}$ Resistance vs. Temperature and V+ Voltage (100.0 kΩ: $V_L$ = 1.8V, 2.7V, 5.5V, A = V+, B = V-, DGND = V-, V+ = 36V, 20V, 10V).*

## 1.1 Test Circuits

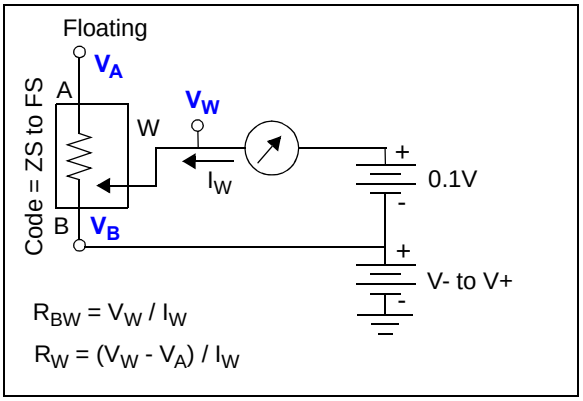


***FIGURE 1-237:*** *$R_W$ and $R_{BW}$ Measurement.*


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# APPENDIX A: REVISION HISTORY

## Revision A (June 2013)

- Original Release of this Document.

**NOTES:**


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