# Si1403BDL vs. Si1403DL

**Description:** **P-Channel, 2.5 V (G-S) MOSFET**
**Package:** **SC70-6**
**Pin Out:** **Identical**

**Part Number Replacements:**
Si1403BDL-T1-E3 Replaces Si1403DL-T1-E3
Si1403BDL-T1-E3 Replaces Si1403DL-T1

| **ABSOLUTE MAXIMUM RATINGS** $T_A$ = 25 °C, unless otherwise noted | | | | | |
|---|---|---|---|---|---|
| **Parameter** | | **Symbol** | **Si1403BDL** | **Si1403DL** | **Unit** |
| Drain-Source Voltage | | $V_{DS}$ | - 20 | - 20 | V |
| Gate-Source Voltage | | $V_{GS}$ | ± 12 | ± 12 | |
| Continuous Drain Current | $T_A$ = 25 °C | $I_D$ | - 1.5 | - 1.5 | A |
| | $T_A$ = 85 °C | | - 1.2 | - 1.2 | |
| Pulsed Drain Current | | $I_{DM}$ | - 5 | - 5 | |
| Continuous Source Current (MOSFET Diode Conduction) | | $I_S$ | - 0.8 | - 0.8 | |
| Power Dissipation | $T_A$ = 25 °C | $P_D$ | 0.625 | 0.625 | W |
| | $T_A$ = 85 °C | | 0.400 | 0.400 | |
| Operating Junction and Storage Temperature Range | | $T_j$ and $T_{stg}$ | - 55 to 150 | - 55 to 150 | °C |
| Maximum Junction-to-Ambient | | $R_{thJA}$ | 200 | 200 | °C/W |

| **SPECIFICATIONS** $T_J$ = 25 °C, unless otherwise noted | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Parameter** | | **Symbol** | **Si1403BDL** | | | **Si1403DL** | | | **Unit** |
| | | | **Min** | **Typ** | **Max** | **Min** | **Typ** | **Max** | |
| **Static** | | | | | | | | | |
| Gate-Threshold Voltage | | $V_{G(th)}$ | - 0.45 | | - 1.3 | - 0.6 | | NS | V |
| Gate-Body Leakage | | $I_{GSS}$ | | | ± 100 | | | ± 100 | nA |
| Zero Gate Voltage Drain Current | | $I_{DSS}$ | | | - 1 | | | - 1 | µA |
| On-State Drain Current | $V_{GS}$ = - 4.5 V | $I_{D(on)}$ | - 2 | | | - 2 | | | A |
| Drain-Source On-Resistance | $V_{GS}$ = - 4.5 V | $r_{DS(on)}$ | | 0.120 | 0.150 | | 0.145 | 0.180 | Ω |
| | $V_{GS}$ = - 3.6 V | | | 0.140 | 0.175 | | 0.165 | 0.200 | |
| | $V_{GS}$ = - 2.5 V | | | 0.220 | 0.265 | | 0.220 | 0.265 | |
| Forward Transconductance | | $g_{fs}$ | | 3.4 | | | 3.8 | | S |
| Diode Forward Voltage | | $V_{SD}$ | | - 0.8 | - 1.1 | | - 0.78 | - 1.1 | V |
| **Dynamic** | | | | | | | | | |
| Total Gate Charge | | $Q_g$ | | 2.9 | 4.5 | | 3.7 | 4.5 | nC |
| Gate-Source Charge | | $Q_{gs}$ | | 0.65 | | | 0.9 | | |
| Gate-Drain Charge | | $Q_{gd}$ | | 1.0 | | | 0.9 | | |
| Gate Resistance | | $R_g$ | | 9 | | | NS | | Ω |
| **Switching** | | | | | | | | | |
| Turn-On Time | | $t_{d(on)}$ | | 13 | 20 | | 8 | 12 | ns |
| | | $t_r$ | | 30 | 45 | | 25 | 40 | |
| Turn-Off Time | | $t_{d(off)}$ | | 28 | 42 | | 21 | 32 | |
| | | $t_f$ | | 13 | 20 | | 20 | 30 | |
| Source-Drain Reverse Recovery Time | | $t_{rr}$ | | 12 | 15 | | 20 | 40 | |

Specification comparisons are supplied as a courtesy to compare two devices and do not constitute a commercial product datasheet or any guarantee of identical performance. Designers should refer to the appropriate datasheets of the same number for guaranteed specification limits.