# Si7120ADN vs. Si7120DN

**Description:** **N-Channel, 60 V (D-S) MOSFET**
**Package:** **PowerPAK® 1212-8**
**Pin Out:** **Identical**

**Part Number Replacements:** Si7120ADN-T1-GE3 replaces Si7120DN-T1-GE3
Si7120ADN-T1-GE3 replaces Si7120DN-T1-GE3

| **ABSOLUTE MAXIMUM RATINGS** $T_A$ = 25 °C, unless otherwise noted | | | | | |
|---|---|---|---|---|---|
| **PARAMETER** | | **SYMBOL** | **Si7120ADN** | **Si7120DN** | **UNIT** |
| Drain-Source Voltage | | $V_{DS}$ | 60 | 60 | V |
| Gate-Source Voltage | | $V_{GS}$ | ± 20 | ± 20 | |
| Continuous Drain Current | $T_A$ = 25 °C | $I_D$ | 9.5 | 10 | A |
| | $T_A$ = 70 °C | | 7.6 | 8 | |
| Pulsed Drain Current | | $I_{DM}$ | 40 | 40 | |
| Continuous Source Current (MOSFET Diode Conduction) | | $I_S$ | 3.2 | 3.2 | |
| Power Dissipation | $T_A$ = 25 °C | $P_D$ | 3.8 | 3.8 | W |
| | $T_A$ = 70 °C | | 2.4 | 2.4 | |
| Operating Junction and Storage Temperature Range | | $T_J$ and $T_{stg}$ | - 55 to 150 | - 55 to 150 | °C |
| Maximum Junction-to-Ambient | | $R_{thJA}$ | 33 | 33 | °C/W |

| **SPECIFICATIONS** $T_J$ = 25 °C, unless otherwise noted | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | **Si7120ADN** | | | **Si7120DN** | | | |
| **PARAMETER** | | **SYMBOL** | **MIN.** | **TYP.** | **MAX.** | **MIN.** | **TYP.** | **MAX.** | **UNIT** |
| **Static** | | | | | | | | | |
| Gate-Threshold Voltage | | $V_{GS(th)}$ | 1.5 | 2.5 | 3.0 | 1.5 | 2.5 | 2.5 | V |
| Gate-Body Leakage | | $I_{GSS}$ | | | ± 100 | | | ± 100 | nA |
| Zero Gate Voltage Drain Current | | $I_{DSS}$ | | | 1.0 | | | 1.0 | µA |
| On-State Drain Current | $V_{GS}$ = 10 V | $I_{D(on)}$ | 30 | | | 30 | | | A |
| Drain-Source On-Resistance | $V_{GS}$ = 10 V | $R_{DS(on)}$ | | 0.0175 | 0.021 | | 0.015 | 0.019 | Ω |
| | $V_{GS}$ = 4.5 V | | | 0.025 | 0.031 | | 0.023 | 0.028 | |
| Forward Transconductance | | $g_{fs}$ | | 35 | | | 35 | | S |
| Diode Forward Voltage | | $V_{SD}$ | | 0.78 | 1.2 | | 0.78 | 1.2 | V |
| **Dynamic** | | | | | | | | | |
| Total Gate Charge | | $Q_g$ | | 30 | 45 | | 30 | 45 | nC |
| Gate-Source Charge | | $Q_{gs}$ | | 6.9 | | | 6.9 | | |
| Gate-Drain Charge | | $Q_{gd}$ | | 5.8 | | | 5.8 | | |
| Gate Resistance | | $R_g$ | 0.65 | 1.3 | 1.95 | 0.65 | 1.3 | 1.95 | Ω |

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.