# Si4936BDY vs. Si4936ADY

**Description:** **Dual P-Channel, 30 V (D-S) MOSFET**
**Package:** **SO-8**
**Pin Out:** **Identical**

**Part Number Replacements**

Si4936BDY-T1-E3 Replaces Si4936ADY-T1-E3
Si4936BDY-T1-E3 Replaces Si4936ADY-T1

| **ABSOLUTE MAXIMUM RATINGS** ($T_A$ = 25 °C, unless otherwise noted) | | | | | |
|---|---|---|---|---|---|
| **Parameter** | | **Symbol** | **Si4936BDY** | **Si4936ADY** | **Unit** |
| Drain-Source Voltage | | $V_{DS}$ | 30 | 30 | V |
| Gate-Source Voltage | | $V_{GS}$ | ± 20 | ± 20 | |
| Continuous Drain Current | $T_A$ = 25 °C | $I_D$ | 5.9 | 5.9 | A |
| | $T_A$ = 70 °C | | 4.7 | 4.7 | |
| Pulsed Drain Current | | $I_{DM}$ | 30 | 30 | |
| Continuous Source Current (MOSFET Diode Conduction) | | $I_S$ | 1.7 | 1.7 | |
| Power Dissipation | $T_A$ = 25 °C | $P_D$ | 2.0 | 2.0 | W |
| | $T_A$ = 70 °C | | 1.3 | 1.3 | |
| Operating Junction and Storage Temperature Range | | $T_j$ and $T_{stg}$ | - 55 to 150 | - 55 to 150 | °C |
| Maximum Junction-to-Ambient | | $R_{thJA}$ | 62.5 | 62.5 | °C/W |

| **SPECIFICATIONS** ($T_J$ = 25 °C, unless otherwise noted) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Parameter** | | **Symbol** | **Si4936BDY** | | | **Si4936ADY** | | | **Unit** |
| | | | **Min** | **Typ** | **Max** | **Min** | **Typ** | **Max** | |
| **Static** | | | | | | | | | |
| Gate-Threshold Voltage | | $V_{GS(th)}$ | 1.5 | | 3.0 | 1.0 | | 3.0 | V |
| Gate-Body Leakage | | $I_{GSS}$ | | | ± 100 | | | ± 100 | nA |
| Zero Gate Voltage Drain Current | | $I_{DSS}$ | | | 1 | | | 1 | µA |
| On-State Drain Current | $V_{GS}$ = 10 V | $I_{D(on)}$ | 30 | | | 30 | | | A |
| Drain-Source On-Resistance | $V_{GS}$ = 10 V | $r_{DS(on)}$ | | 0.029 | 0.035 | | 0.032 | 0.036 | Ω |
| | $V_{GS}$ = 4.5 V | | | 0.042 | 0.051 | | 0.042 | 0.053 | |
| Forward Transconductance | | $g_{fs}$ | | 12 | | | 15 | | S |
| Diode Forward Voltage | | $V_{SD}$ | | 0.8 | 1.2 | | 0.8 | 1.2 | V |
| **Dynamic** | | | | | | | | | |
| Total Gate Charge | | $Q_g$ | | 9.1 | 15 | | 13 | 20 | nC |
| Gate-Source Charge | | $Q_{gs}$ | | 1.8 | | | 2.3 | | |
| Gate-Drain Charge | | $Q_{gd}$ | | 1.7 | | | 2.0 | | |
| Gate Resistance | | $R_g$ | | 3 | | | NS | | Ω |
| **Switching** | | | | | | | | | |
| Turn-On Time | | $t_{d(on)}$ | | 5 | 10 | | 6 | 12 | ns |
| | | $t_r$ | | 25 | 40 | | 14 | 25 | |
| Turn-Off Time | | $t_{d(off)}$ | | 12 | 20 | | 30 | 60 | |
| | | $t_r$ | | 10 | 15 | | 5 | 10 | |
| Source-Drain Reverse Recovery Time | | $t_{rr}$ | | 20 | 40 | | 30 | 60 | |

NS denotes parameter not specified in original datasheet

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.