

SOT-23 Plastic-Encapsulate Diodes Switching Diode

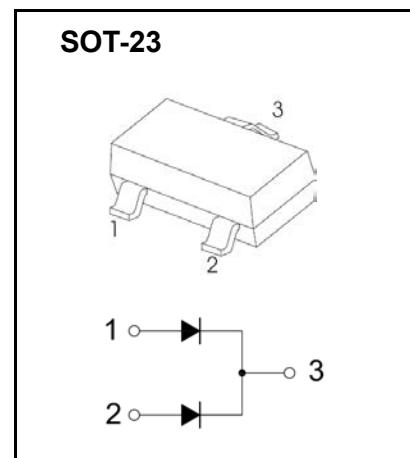
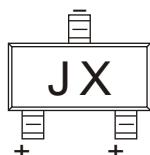
FEATURES

- Low Leakage Current
- High Switching Speed
- AEC-Q101 qualified (Automotive grade with suffix " Q")
- Expsemi electronics

APPLICATION

- Low-leakage Current Applications in
Surface Mounted Circuits

MARKING:JX



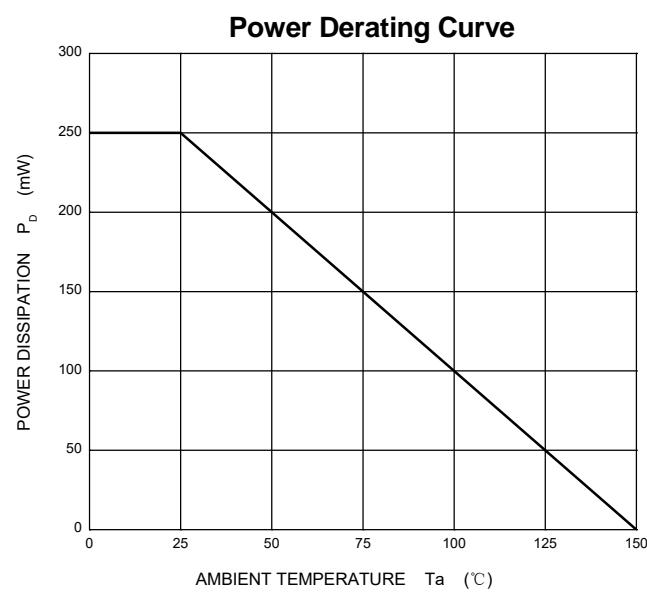
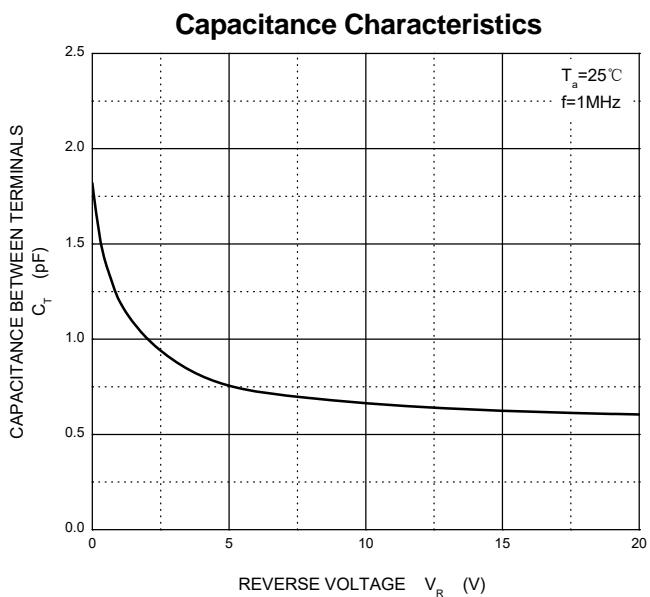
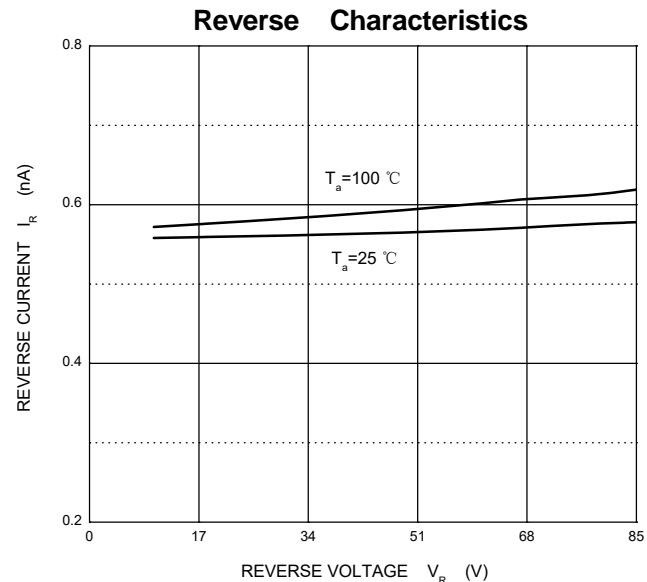
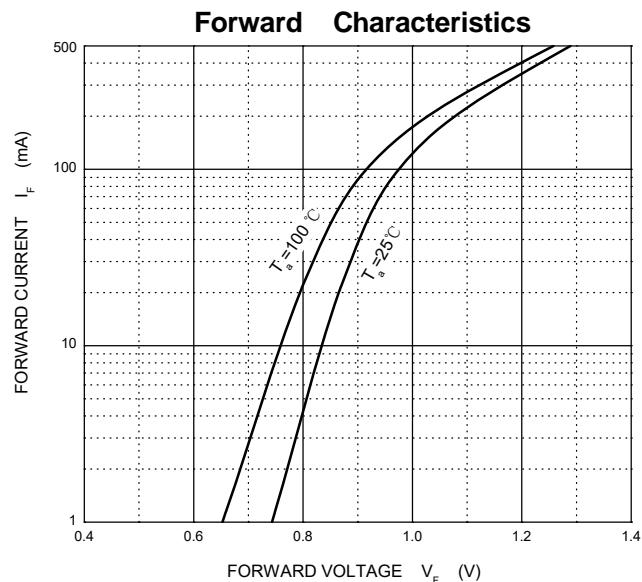
MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------------|---|----------|---------------------------|
| V_{RRM} | Repetitive Peak Reverse Voltage | 85 | V |
| V_R | DC Blocking Voltage | 75 | V |
| I_F | Forward Current(single diode) | 215 | mA |
| | Forward Current(double diode) | 125 | |
| I_{FRM} | Repetitive Peak Forward Current | 500 | mA |
| I_{FSM} | Non-repetitive Peak Forward Surge Current@ $t = 8.3\text{ms}$ | 1.0 | A |
| P_D | Power Dissipation | 250 | mW |
| $R_{\Theta JA}$ | Thermal Resistance from Junction to Ambient | 500 | $^\circ\text{C}/\text{W}$ |
| T_J, T_{stg} | Operation Junction and Storage Temperature Range | -55~+150 | $^\circ\text{C}$ |

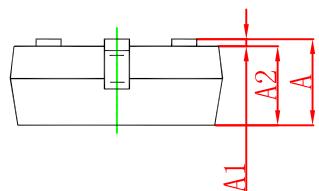
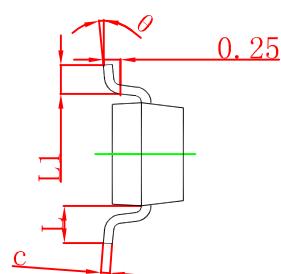
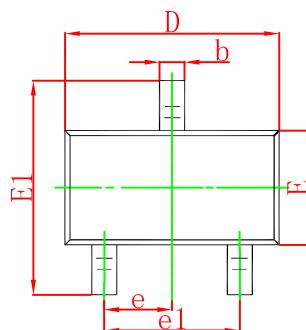
ELECTRICAL CHARACTERISTICS($T_a=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|-----------------------|------------|---|-----|-----|------|---------------|
| Reverse voltage | $V_{(BR)}$ | $I_R=100\mu\text{A}$ | 75 | | | V |
| Reverse current | I_R | $V_R=75\text{V}$ | | | 5 | nA |
| Forward voltage | V_F | $I_F=1\text{mA}$ | | | 0.9 | V |
| | | $I_F=10\text{mA}$ | | | 1 | |
| | | $I_F=50\text{mA}$ | | | 1.1 | |
| | | $I_F=150\text{mA}$ | | | 1.25 | |
| Total capacitance | C_{tot} | $V_R=0, f=1\text{MHz}$ | | 2 | | pF |
| Reverse recovery time | t_{rr} | $I_F= I_R=10\text{mA}, I_{rr}=0.1\times I_R, R_L=100\Omega$ | | 3 | | μs |

Typical Characteristics

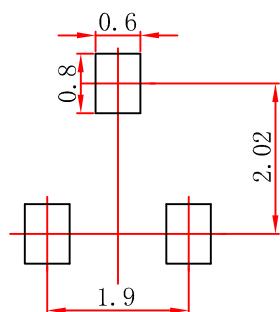


SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.