

Silicon Power Schottky Diode

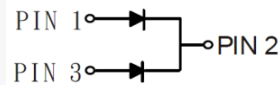
$V_{RRM} = 45\text{ V} - 100\text{ V}$

$I_{F(AV)} = 120\text{ A}$

Features

- High Surge Capability
- Types from 45 V to 100V V_{RRM}
- Isolated to Plate
- Not ESD Sensitive

TO-249AB Package



Maximum ratings, at $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Conditions | FST12045 | FST12060 | FST12080 | FST120100 | Unit |
|---------------------------------|-----------|------------|------------|------------|------------|------------|------------------|
| Repetitive peak reverse voltage | V_{RRM} | | 45 | 60 | 80 | 100 | V |
| RMS reverse voltage | V_{RMS} | | 32 | 42 | 57 | 70 | V |
| DC blocking voltage | V_{DC} | | 45 | 60 | 80 | 100 | V |
| Operating temperature | T_j | | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | $^\circ\text{C}$ |

Electrical characteristics, at $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Conditions | FST12045 | FST12060 | FST12080 | FST120100 | Unit |
|--|-------------|---|----------|----------|----------|-----------|------|
| Average forward current (per pkg) | $I_{F(AV)}$ | $T_C = 125\text{ }^\circ\text{C}$ | 120 | 120 | 120 | 120 | A |
| Peak forward surge current (per leg) | I_{FSM} | $t_p = 8.3\text{ ms}$, half sine | 1000 | 1000 | 1000 | 1000 | A |
| Maximum instantaneous forward voltage (per leg) | V_F | $I_{FM} = 60\text{ A}$, $T_j = 25\text{ }^\circ\text{C}$ | 0.70 | 0.75 | 0.84 | 0.84 | V |
| Maximum Instantaneous reverse current at rated DC blocking voltage (per leg) | I_R | $T_j = 25\text{ }^\circ\text{C}$ | 1 | 1 | 1 | 1 | mA |
| | | $T_j = 100\text{ }^\circ\text{C}$ | 10 | 10 | 10 | 10 | |
| | | $T_j = 150\text{ }^\circ\text{C}$ | 30 | 30 | 30 | 30 | |

Thermal characteristics

| | | | | | | | |
|---|-----------------|--|------|------|------|------|--------------------|
| Thermal resistance, junction - case (per leg) | $R_{\theta JC}$ | | 0.80 | 0.80 | 0.80 | 0.80 | $^\circ\text{C/W}$ |
|---|-----------------|--|------|------|------|------|--------------------|

Figure .1- Typical Forward Characteristics

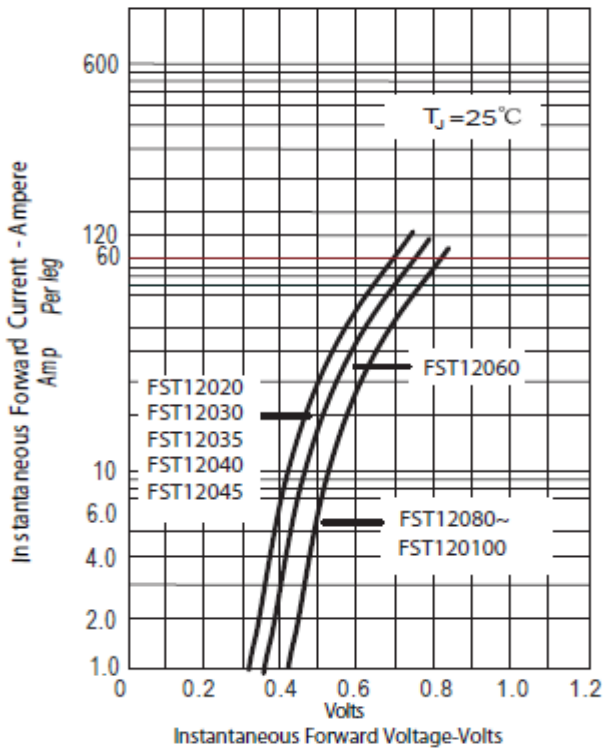


Figure .2- Forward Derating Curve

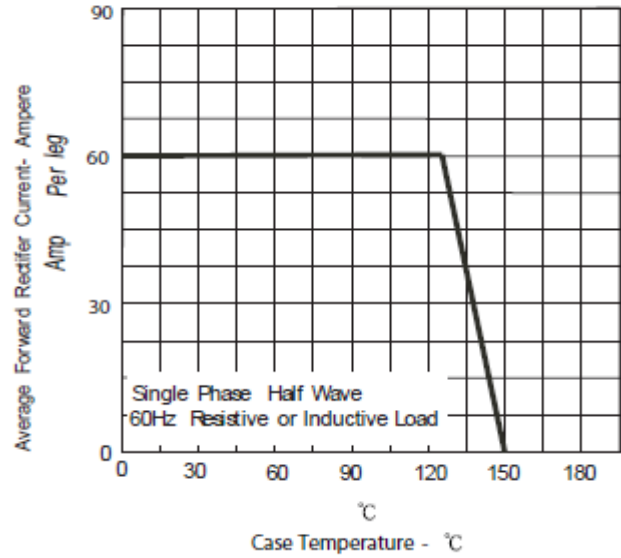


Figure.3-Peak Forward Surge Current

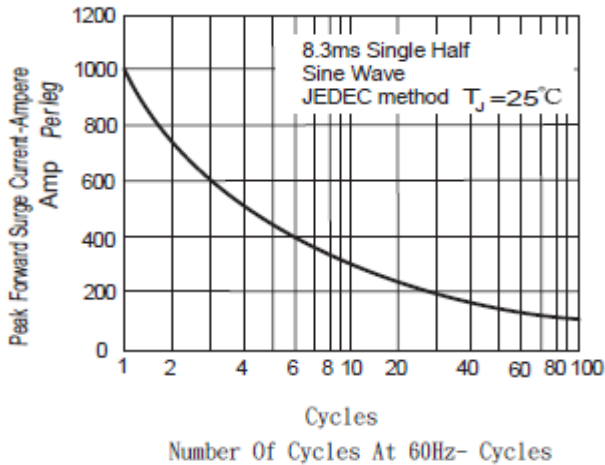
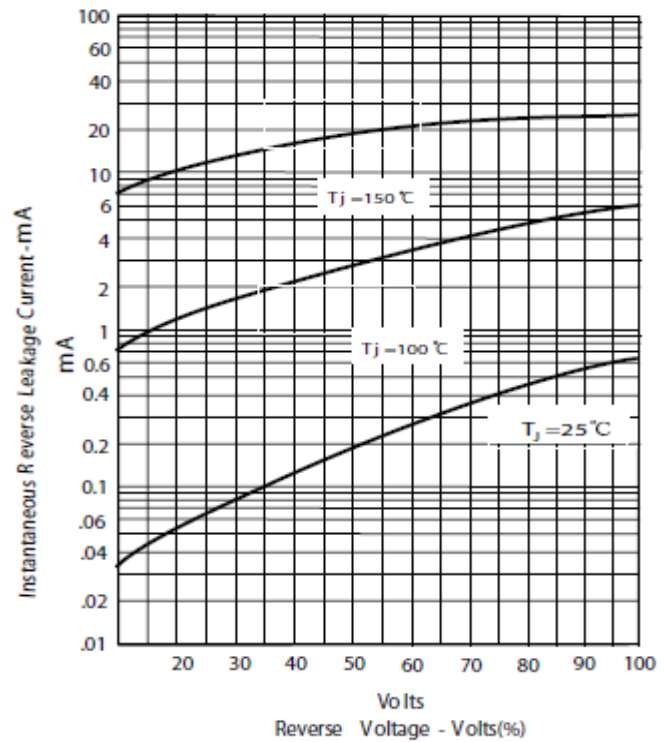
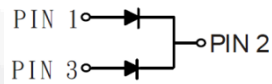
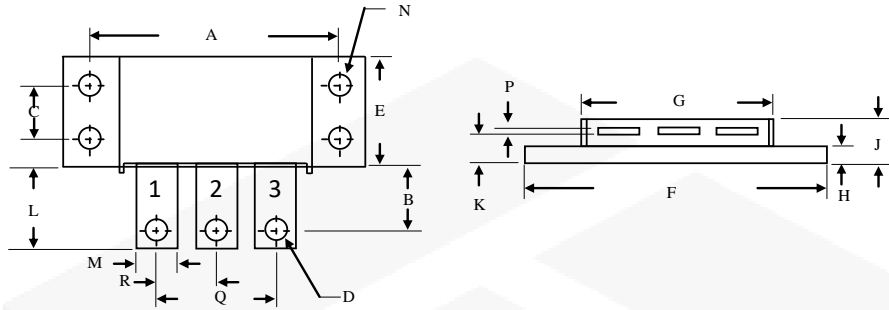


Figure .4 Typical Reverse Characteristics



Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



| | Inches | | Millimeters | |
|---|--------|-------|-------------|-------|
| | Min | Max | Min | Max |
| A | 1.995 | 2.005 | 50.67 | 50.93 |
| B | 0.300 | 0.325 | 7.62 | 8.26 |
| C | 0.495 | 0.505 | 12.57 | 12.83 |
| D | 0.182 | 0.192 | 4.62 | 4.88 |
| E | 0.990 | 1.010 | 25.15 | 26.65 |
| F | 2.390 | 2.410 | 60.71 | 61.21 |
| G | 1.495 | 1.525 | 37.90 | 38.70 |
| H | 0.114 | 0.122 | 2.90 | 3.10 |
| J | ----- | 0.420 | ----- | 10.67 |
| K | 0.256 | 0.275 | 6.5 | 7.0 |
| L | 0.490 | 0.510 | 12.45 | 12.95 |
| M | 0.330 | 0.350 | 8.38 | 8.90 |
| N | 0.175 | 0.195 | 4.45 | 4.95 |
| P | 0.035 | 0.045 | 0.89 | 1.14 |
| R | 0.445 | 0.455 | 11.30 | 11.56 |
| Q | 0.890 | 0.910 | 22.61 | 23.11 |