

SURFACE MOUNT SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 400 Volts CURRENT 0.5 Ampere

FEATURES

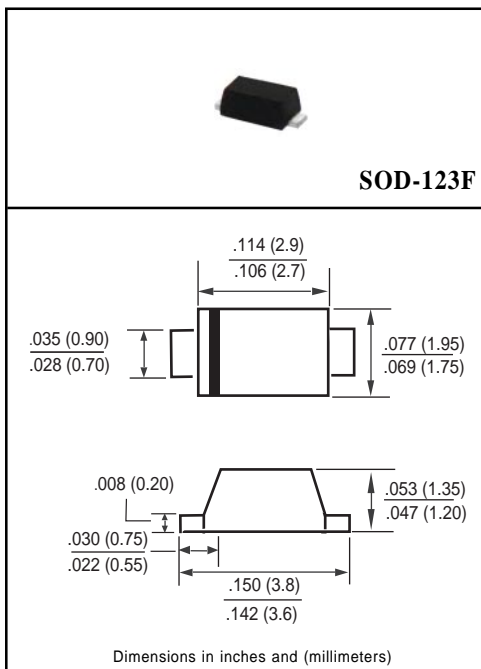
- * High reliability
- * Low leakage
- * Low forward voltage
- * High current capability
- * Super fast switching speed
- * High surge capability
- * Good for switching mode circuit

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: Device has UL flammability classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.016 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.



MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

| RATINGS | | SYMBOL | 05E1 | 05E2 | 05E3 | 05E4 | 05E5 | 05E6 | UNITS |
|---|--|----------|-------------|------|------|------|------|------|-------|
| Maximum Recurrent Peak Reverse Voltage | | VRRM | 50 | 100 | 150 | 200 | 300 | 400 | Volts |
| Maximum RMS Volts | | VRMS | 35 | 70 | 105 | 140 | 210 | 280 | Volts |
| Maximum DC Blocking Voltage | | Vdc | 50 | 100 | 150 | 200 | 300 | 400 | Volts |
| Maximum Average Forward Current at TA = 55°C | | Io | 0.5 | | | | | | Amps |
| Peak Forward Surge Current IFM (surge):8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | | IFSM | 15 | | | | | | Amps |
| Typical Junction Capacitance (Note 2) | | Cj | 12 | | | 14 | | | pF |
| Operating and Storage Temperature Range | | TJ, TSTG | -55 to +150 | | | | | | °C |

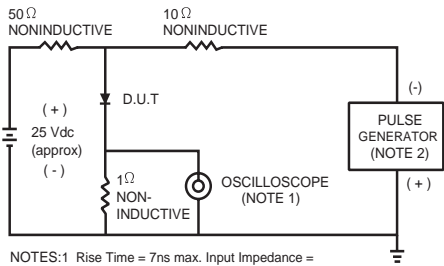
ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

| CHARACTERISTICS | | SYMBOL | 05E1 | 05E2 | 05E3 | 05E4 | 05E5 | 05E6 | UNITS |
|---|--------------|--------|------|------|------|------|------|------|-------|
| Maximum Forward Voltage at 0.5A DC | | VF | 0.95 | | | 1.25 | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | @ TA = 25°C | IR | 5.0 | | | | | | uAmps |
| | @ TA = 100°C | | 100 | | | | | | |
| Maximum Reverse Recovery Time (Note 1) | | trr | 35 | | | | | | nSec |

- NOTES : 1. Test Conditions: IF=0.5A, IR=-1.0A, IRR=-0.25A.
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
 3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

RATING AND CHARACTERISTIC CURVES (05E1 THRU 05E6)

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES:1 Rise Time = 7ns max. Input Impedance = 1 megohm, 22pF.
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

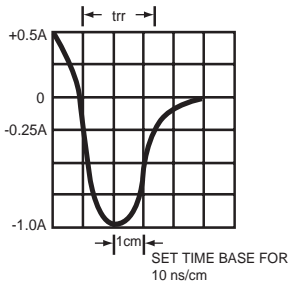


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

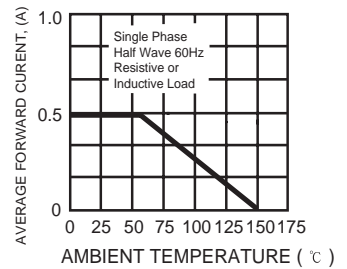


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

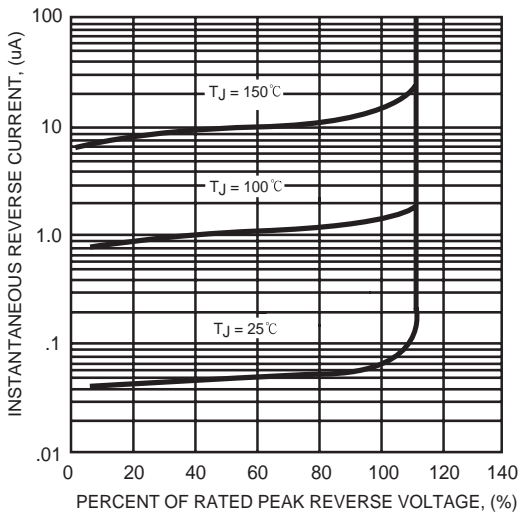


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

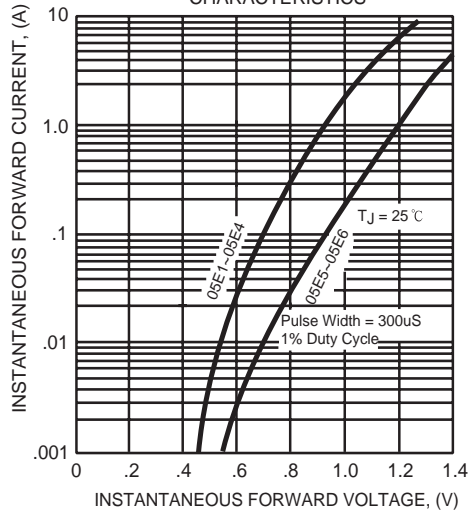


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

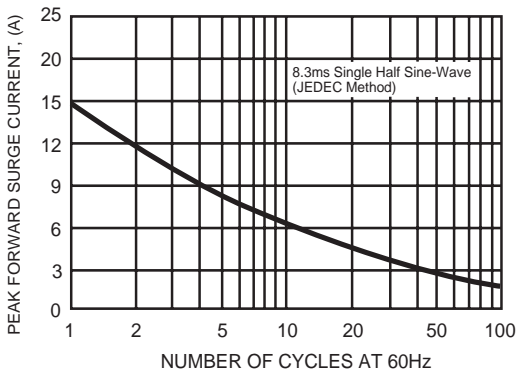


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

