

SURFACE MOUNT SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 400 Volts CURRENT 1.0 Ampere

FEATURES

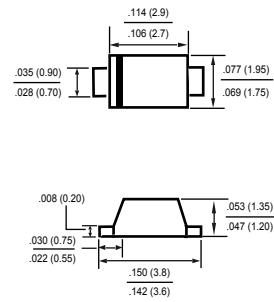
- * High reliability
- * Low leakage
- * Low forward voltage
- * High current capability
- * Super fast switching speed
- * High surge capability
- * Good for switching mode circuit

MECHANICAL DATA

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

NEW RELEASE

SOD-123F



Dimensions in inches and (millimeters)

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 (@ TA=25 °C unless otherwise noted)

| RATINGS | SYMBOL | SE1 | SE2 | SE3 | SE4 | SE5 | SE6 | UNITS |
|---|------------------|--------------|-----|-----|-----|-----|-----|-------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | Volts |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | Volts |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 150 | 200 | 300 | 400 | Volts |
| Maximum Average Forward Rectified Current at T _A = 55°C | I _O | 1.0 | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | I _{FSM} | 15 | | | | | | Amps |
| Typical Thermal Resistance (Note 1) | R _{θJA} | 130 | | | | | | °C/W |
| Typical Thermal Resistance (Note 1) | R _{θJL} | 30 | | | | | | °C/W |
| Typical Junction Capacitance (Note 2) | C _J | 15 | | | | 10 | | pF |
| Operating Temperature Range | T _J | 150 | | | | | | °C |
| Storage Temperature Range | T _{STG} | -55 to + 150 | | | | | | °C |

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

| CHARACTERISTICS | SYMBOL | SE1 | SE2 | SE3 | SE4 | SE5 | SE6 | UNITS | |
|--|----------------|--------------------------|-----|-----|-----|------|-----|-------|----|
| Maximum Instantaneous Forward Voltage at 1.0A DC | V _F | 0.95 | | | | 1.25 | | Volts | |
| Maximum Average Reverse Current at Rated DC Blocking Voltage | I _R | @ T _A = 25°C | 5 | | | | | | μA |
| | | @ T _A = 100°C | 350 | | | | | | μA |
| Maximum Reverse Recovery Time (Note 4) | trr | 35 | | | | | | nSec | |

- NOTES : 1. Thermal Resistance :Mounted on PCB.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".
4. Test Conditions: I_F= 0.5A, I_R= -1.0A, I_{RR}= -0.25A.

RATING AND CHARACTERISTICS CURVES (SE1 THRU SE6)

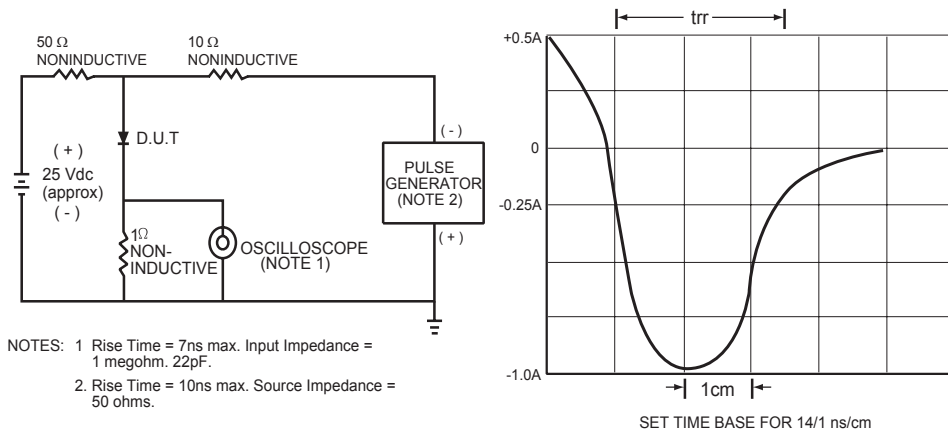


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

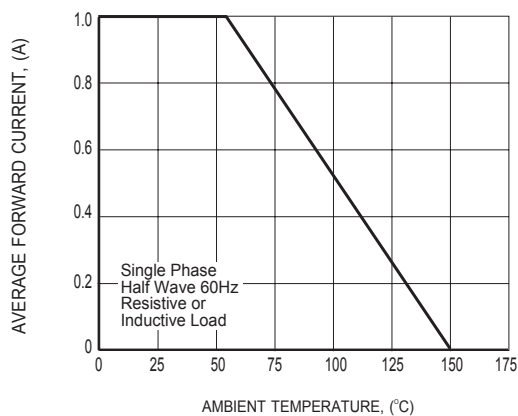


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

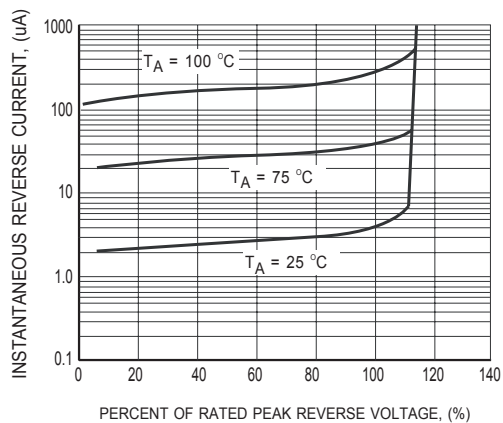


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (SE1 THRU SE6)

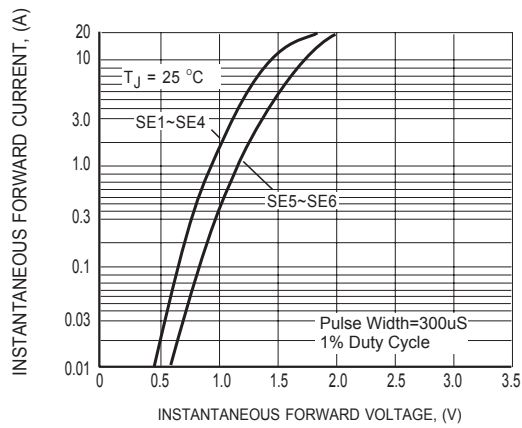


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

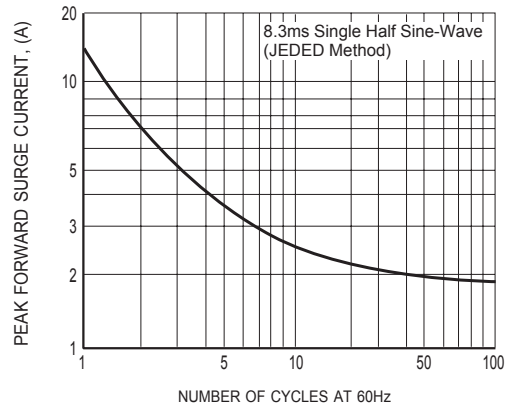


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

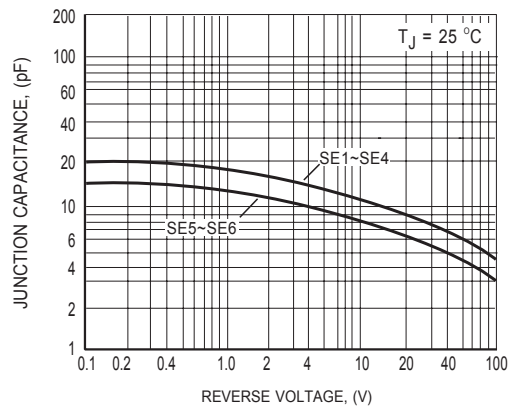
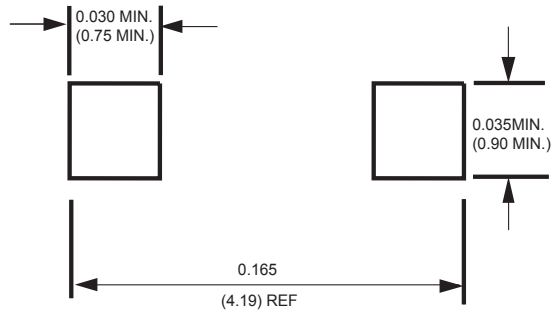


FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

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