

SM493X SERIES

SURFACE MOUNT FAST RECOVERY RECTIFIER

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SM4933 THRU SM4937

SURFACE MOUNT FAST RECOVERY RECTIFIER



REVERSE VOLTAGE: 50 to 600 VOLTS

FORWARD CURRENT: 1.0 AMPERE

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications
- High temperature metallurgically bonded construction
- Fast switching for high efficiency
- Cavity-free glass passivated junction
- Capable of meeting environmental standards of MIL-S-19500
- High temperature soldering : 260°C /10 seconds at terminals

MECHANICAL DATA

Case: Molded plastic, MELF

Epoxy: UL 94V-O rate flame retardant

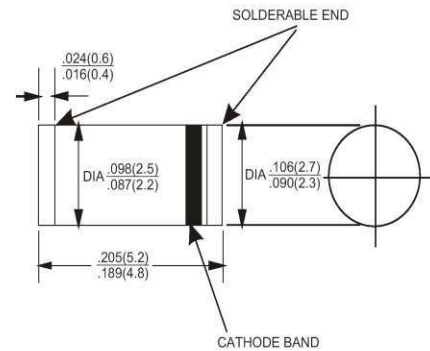
Terminals: Solder plated, solderable per MIL-STD-750, method 208 guaranteed

Polarity: Color band denotes cathode end

Mounting position: Any

Weight: 0.005 ounce, 0.12 gram

MELF



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	Symbols	SM4933	SM4934	SM4935	SM4936	SM4937	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	Volts
Maximum Average Forward Rectified Current at $T_A=55C$	$I_{(AV)}$	1.0					Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30					Amp
Maximum Forward Voltage at 1.0A DC	V_F	1.2					Volts
Maximum Reverse Current at $T_A=25C$ at Rated DC Blocking Voltage $T_A=125C$	I_R	5.0 100					μ Amp
Typical Junction Capacitance (Note 1)	C_J	15					pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	75					C/W
Typical Thermal Resistance (Note 3)	$R_{\theta JT}$	30					C/W
Maximum Reverse Recovery Time (Note 4)	T_{RR}	200					nS
Operating and Storage Temperature Range	T_J T_{stg}	-55 to +175					C

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to ambient, 0.24 x 0.24" (6.0 x 6.0mm) copper pads to each terminal

3- Thermal resistance from junction to terminal, 0.24 x 0.24" (6.0 x 6.0mm) copper pads to each terminal

4- Reverse Recovery Test Conditions: $I_F = 1.0A$, $V_R = 30V$.

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RATINGS AND CHARACTERISTIC CURVES

Fig 1 – Forward Current Derating Curve

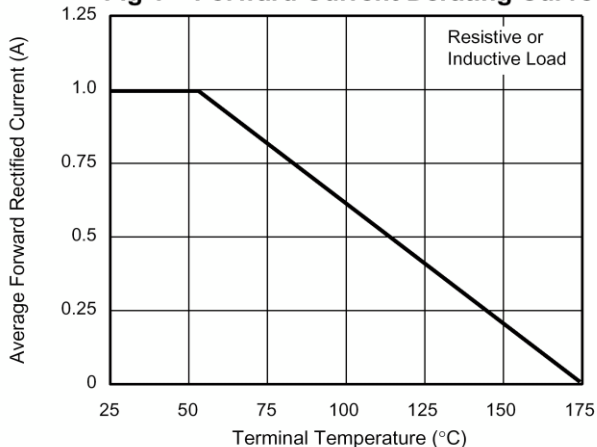


Fig 2 – Maximum Non-repetitive Peak Forward Surge Current

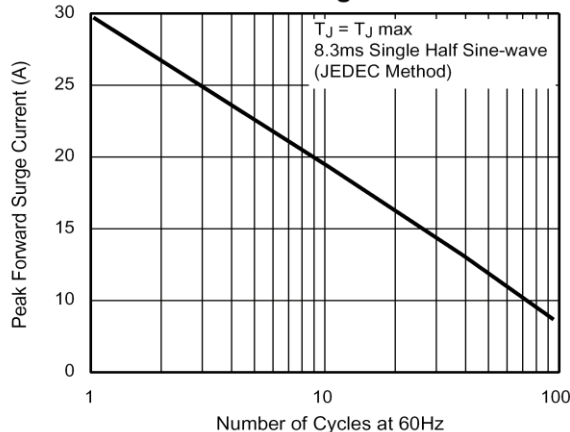


Fig 3 – Typical Instantaneous Forward Characteristics

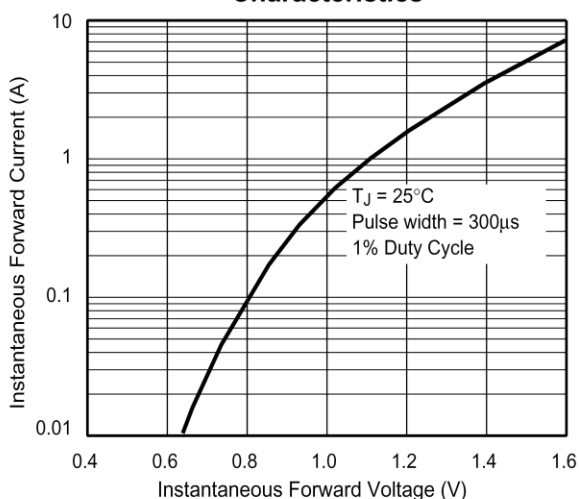


Fig 4 – Typical Reverse Characteristics

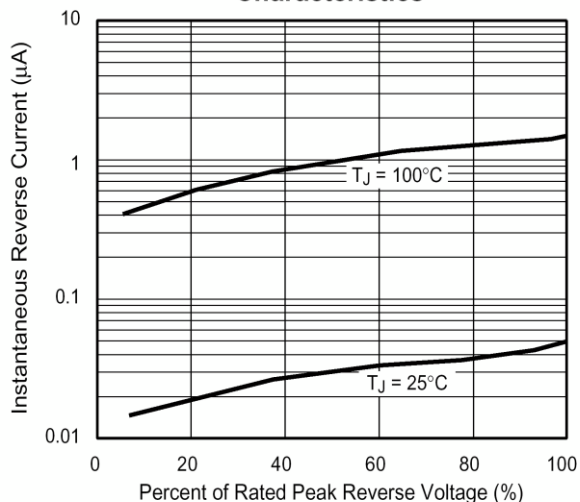


Fig 5 – Typical Junction Capacitance

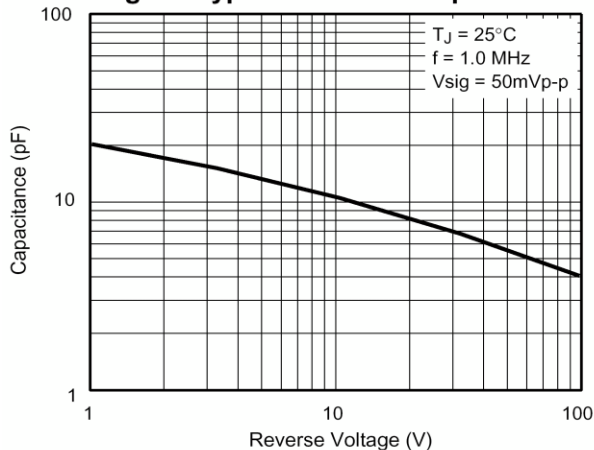


Fig 6 – Typical Transient Thermal Impedance

