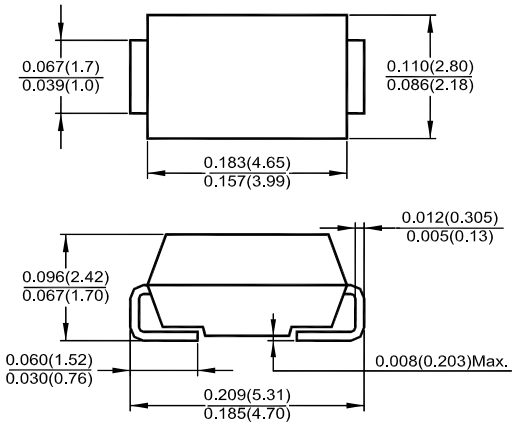
SE1A THRU SE1M

SURFACE MOUNT HIGH EFFICIENT RECTIFIER

Reverse Voltage - 50 to 1000 V
Forward Current - 1 A

SMA (DO-214AC)



Dimensions in inches and (millimeters)

Features

- High current capability
- High surge current capability
- High reliability
- Low reverse current
- Low forward voltage drop
- Fast switching for high efficiency

Mechanical Data

- **Case:** SMA (DO-214AC) molded plastic
- **Epoxy:** UL 94V-0 rate flame retardant
- **Lead:** Lead formed for surface mount
- **Polarity:** color band denotes cathode end
- **Mounting position:** Any

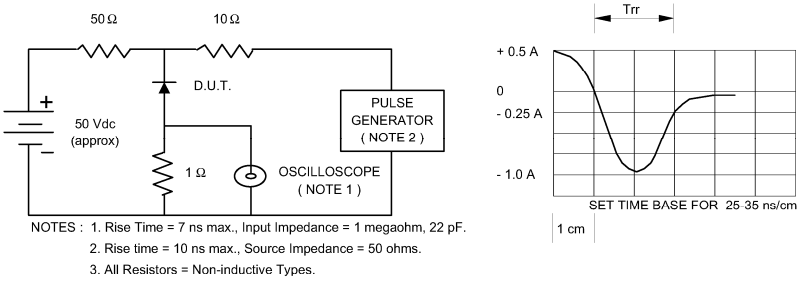
Maximum Ratings and Electrical Characteristics

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%.

Parameter	Symbols	SE1A	SE1B	SE1D	SE1E	SE1G	SE1J	SE1K	SE1M	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	300	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	300	400	600	800	1000	V
Maximum Average Forward Current T_a = 55 °C	$I_{F(AV)}$	1								A
Maximum Peak Forward Surge Current, 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30								A
Maximum Forward Voltage at I_F = 1 A	V_F	1.1					1.7		2.2	V
Maximum DC Reverse Current T_a = 25 °C	I_R	5								µA
at Rated DC Blocking Voltage T_a = 100 °C		50								
Maximum Reverse Recovery Time [1]	t_{rr}	50					75			ns
Typical Junction Capacitance [2]	C_J	50								pF
Junction and Storage Temperature Range	T_J, T_S	- 65 to + 150								°C

[1] Reverse recovery test conditions: I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A
[2] Measured at 1 MHz and applied reverse voltage of 4 V

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



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.
2. Rise time = 10 ns max., Source Impedance = 50 ohms.
3. All Resistors = Non-inductive Types.

FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

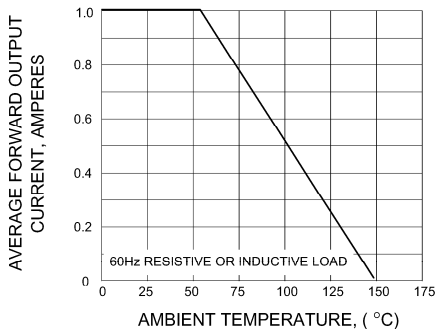


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

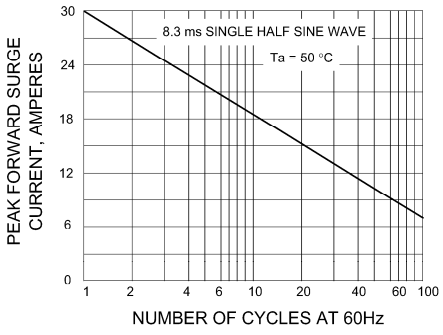


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

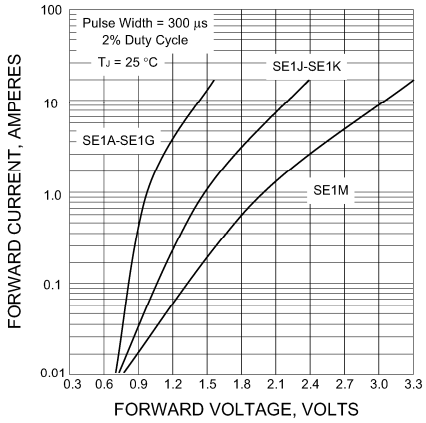


FIG.5 - TYPICAL REVERSE CHARACTERISTICS