



Features

- Ideal for surface mount applications
- Easy pick and place
- Built-in strain relief
- Super fast recovery time for high speed switching



SMC



Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Metallurgically bonded construction
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: 0.21 grams

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
ES3J	SMC	ES3J	3000

Maximum Ratings and Electrical Characteristics

Single phase f wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Type Number	ES3J	Units
Maximum Recurrent Peak Reverse Voltage	600	V
Maximum RMS Voltage	420	V
Maximum DC Blocking Voltage	600	V
Maximum Average Forward Rectified Current at $T_L=100^\circ\text{C}$	3.0	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	100	A
Maximum Instantaneous Forward Voltage at 3.0A	1.7	V
Maximum DC Reverse Current $T_a=25^\circ\text{C}$	10	μA
at Rated DC Blocking Voltage $T_a=100^\circ\text{C}$	500	μA
Maximum Reverse Recovery Time (Note 1)	35	nS
Typical Junction Capacitance (Note 2)	45	pF
Operating and Storage Temperature Range T_J, T_{stg}	-65 — +150	$^\circ\text{C}$

Notes:

1. Reverse Recovery Time test condition: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $IRR=0.25\text{A}$
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.



Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1-TYPICAL FORWARD

CHARACTERISTICS

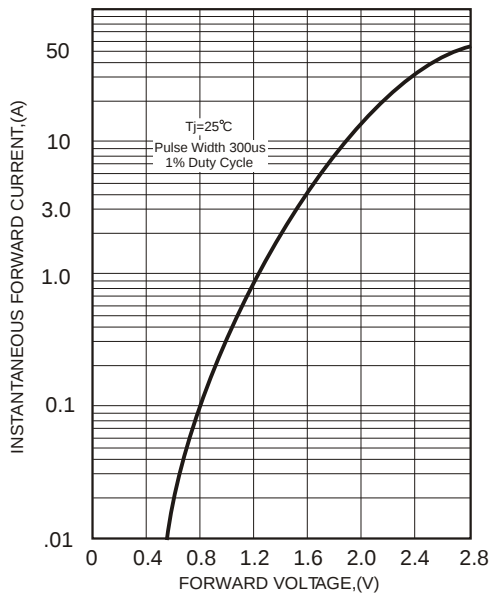


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

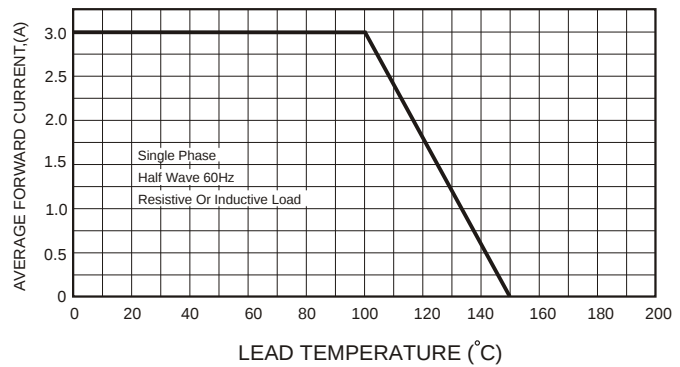
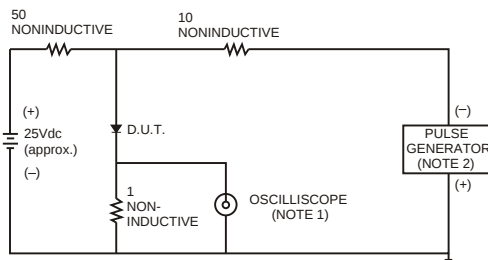


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE

RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

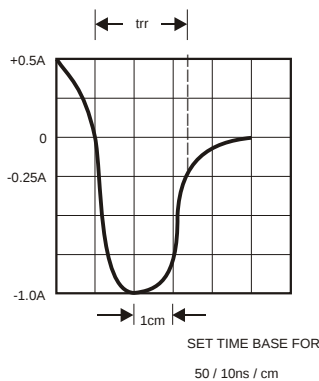


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

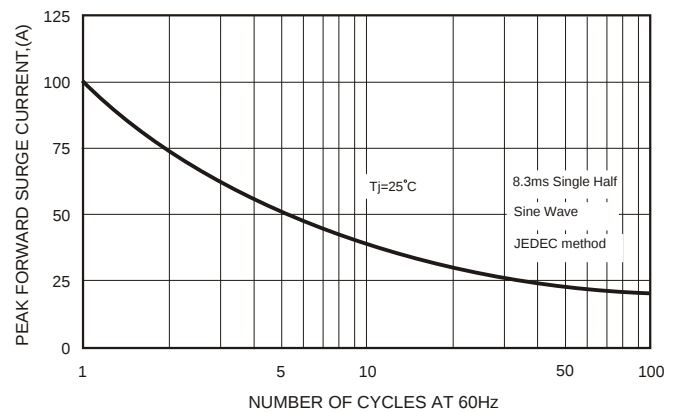
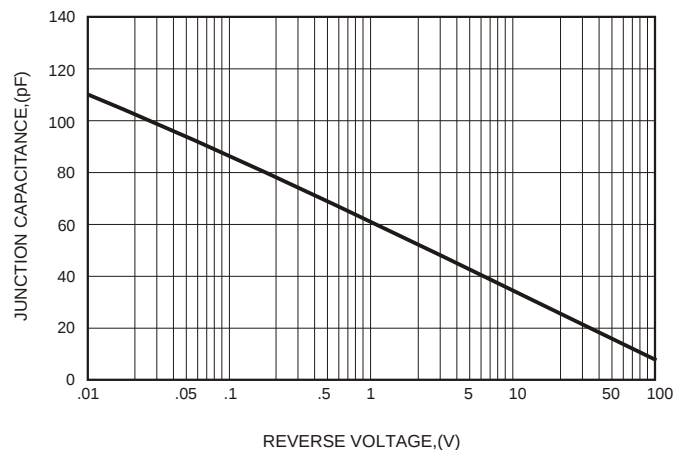
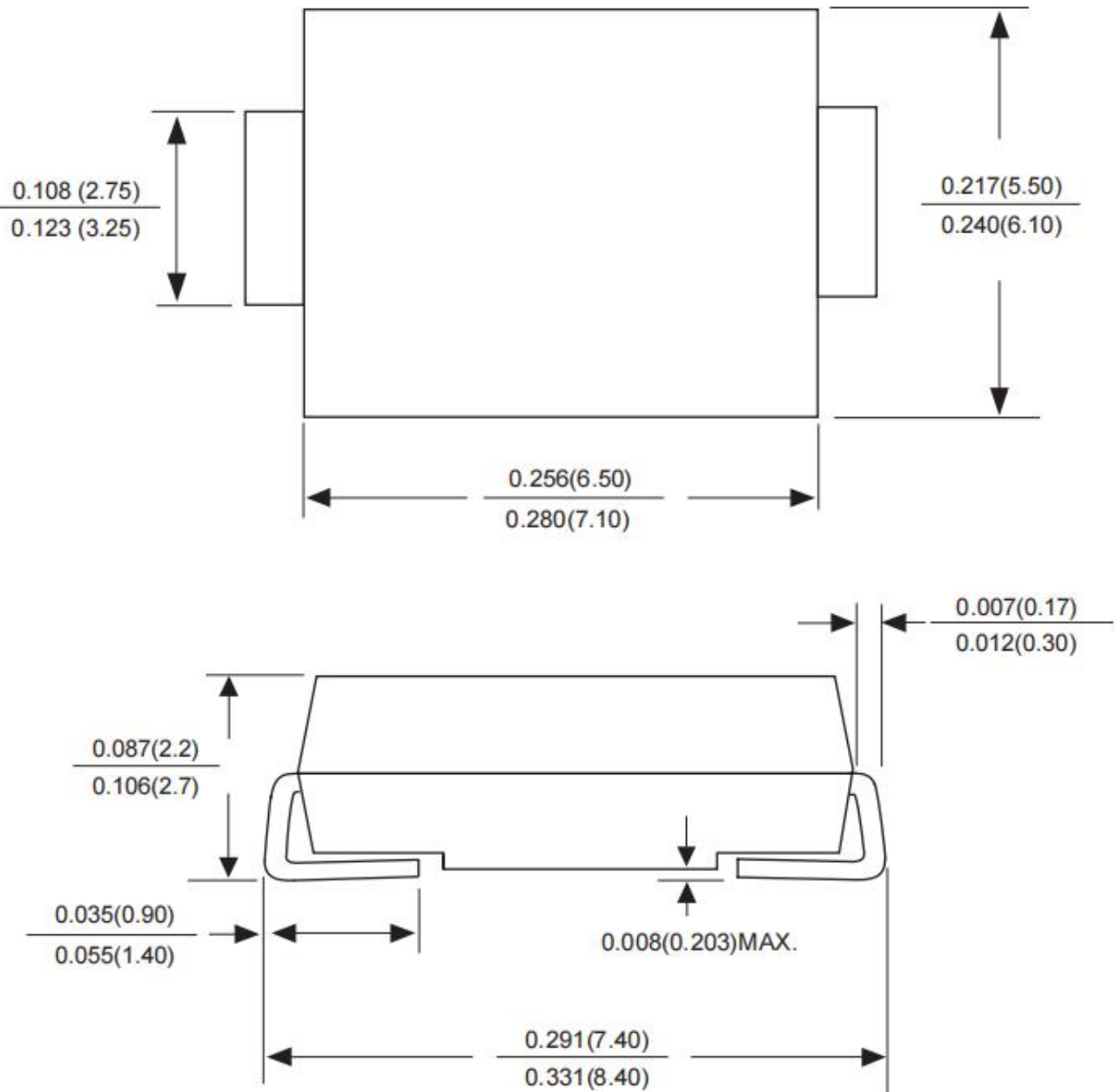


FIG.5-TYPICAL JUNCTION CAPACITANCE





SMC Package Outline Dimensions



Dimensions in inches and (millimeters)



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