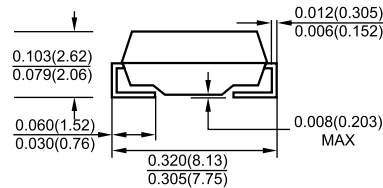
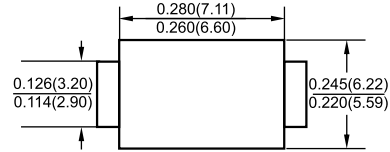




SMC/DO-214AB

Features

- ✦ Glass passivated junction chip
- ✦ For surface mounted applications
- ✦ Low profile package
- ✦ Built-in strain relief
- ✦ Ideal for automated placement
- ✦ Easy pick and place
- ✦ Super fast recovery time for high efficiency
- ✦ Glass passivated chip junction
- ✦ High temperature soldering:
260°C/10 seconds at terminals
- ✦ Plastic material used carries Underwriters
Laboratory Classification 94V-0



Mechanical Data

- ✦ Cases: Molded plastic
- ✦ Terminals: Pure tin plated, lead free.
- ✦ Polarity: Indicated by cathode band
- ✦ Weight: 0.21 gram

Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating 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%

Type Number	Symbol	ES 3A	ES 3B	ES 3C	ES 3D	ES 3F	ES 3G	ES 3H	ES 3J	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	3.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) @ $T_L = 100^\circ\text{C}$	I_{FSM}	100								A
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	0.95			1.3		1.7			V
Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	I_R					10		500		uA uA
Maximum Reverse Recovery Time (Note 1)	T_{rr}					35				nS
Typical Junction Capacitance (Note 2)	C_j	45			30					pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$					47				$^\circ\text{C/W}$
Operating Temperature Range	T_J					-55 to +150				$^\circ\text{C}$
Storage Temperature Range	T_{STG}					-55 to +150				$^\circ\text{C}$

- Notes:
1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 2. Measured at 1 MHz and Applied $V_R=4.0$ Volts
 3. Units Mounted on P.C.B. with 0.6" x 0.6"(16mm x 16mm) Copper Pad Areas

RATINGS AND CHARACTERISTIC CURVES (ES3A THRU ES3J)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

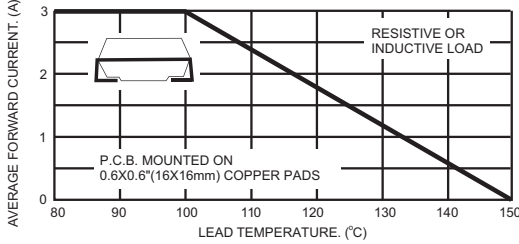


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

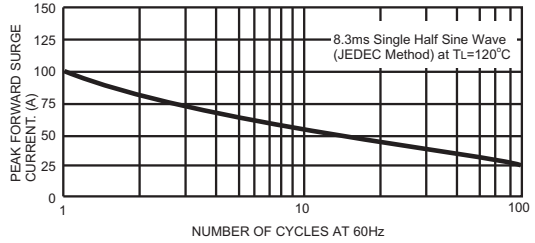


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

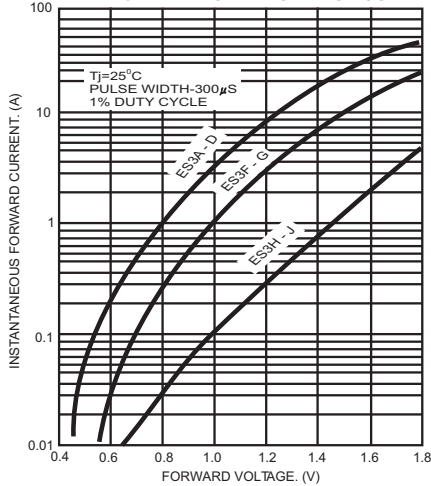


FIG.4- TYPICAL REVERSE CHARACTERISTICS

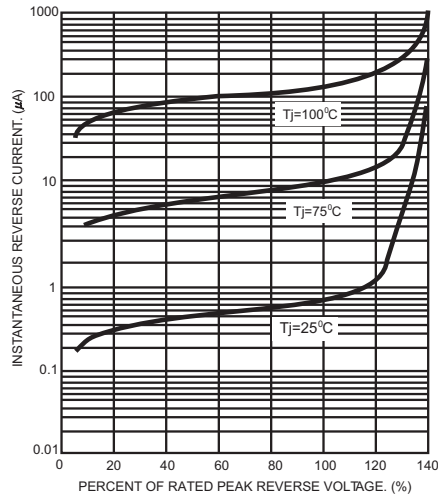


FIG.5- TYPICAL JUNCTION CAPACITANCE

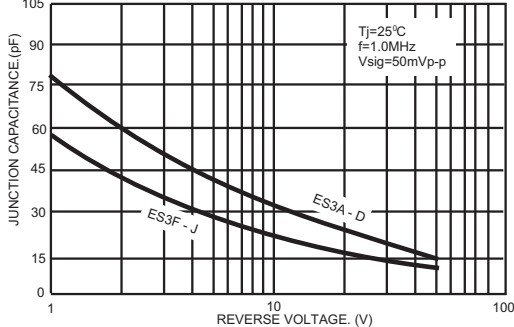


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE

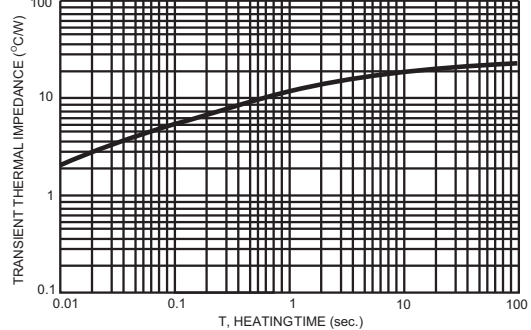


FIG.7- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

