



Super Fast Surface Mount Rectifiers

Reverse Voltage 50 to 1000 Volts Forward Current 3.0 Amperes

Features

- ◆ Glass passivated junction chip
- ◆ For surface mounted application
- ◆ Low profile package
- ◆ Built-in strain relief
- ◆ Ideal for automated placement
- ◆ Easy pick and place
- ◆ Superfast recovery time for high efficiency
- ◆ Glass passivated chip junction
- ◆ High temperature soldering:
250°C/10 seconds at terminals
- ◆ Plastic material used carries Underwriters Laboratory
Classification 94V-O

Mechanical Data

- ◆ Cases: Molded plastic
- ◆ Terminals: Solder plated
- ◆ Polarity: Indicated by cathode band
- ◆ Weight: 0.007 ounce, 0.21 gram

Maximum Ratings and Electrical Characteristics

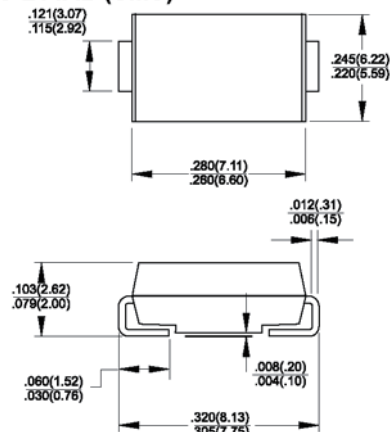
Ratings at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%



DO-214AB (SMC)



Dimensions in inches and (millimeters)

Parameter	Symbols	ES 3A	ES 3B	ES 3C	ES 3D	ES 3F	ES 3G	ES 3J	ES 3K	ES 3M	Units
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	600	800	1000	Volts
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	560	700	Volts
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	600	800	1000	Volts
Maximum average forward rectified current See Fig. 1	I _(AV)	3.0									Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) @T _L =100°C	I _{FSM}	100.0									Amps
Maximum instantaneous forward voltage @ 3.0A	V _F	0.95				1.3		1.7			Volts
Maximum DC reverse current @ T _A =25°C at rated DC blocking voltage @ T _A =100°C	I _R					10.0 500					μA μA
Maximum reverse recovery time (Note 1)	t _{rr}					35					nS
Typical junction capacitance (Note 2)	C _J	50				40					pF
Typical thermal resistance (Note 3)	R _{θJA} R _{θJL}					47 12					°C/W
Operating junction temperature range	T _J					-55 to +150					°C
Storage temperature range	T _{STG}					-55 to +150					°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 $V_R=4.0\text{ Volts}$
 3. Units Mounted on P.C.B. with 0.31 x 0.31" (8.0 x 8.0mm) Copper Pad Areas

RATINGS AND CHARACTERISTIC CURVES

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

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

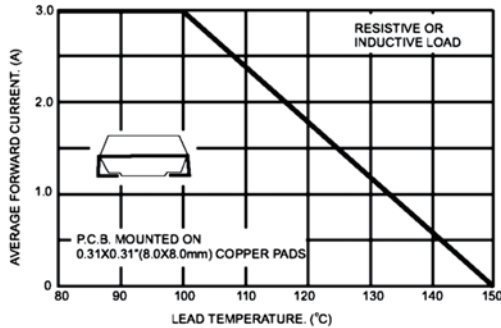


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

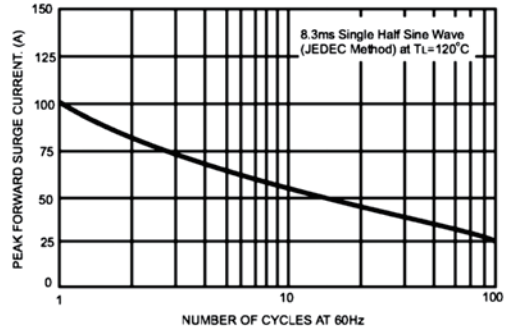


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

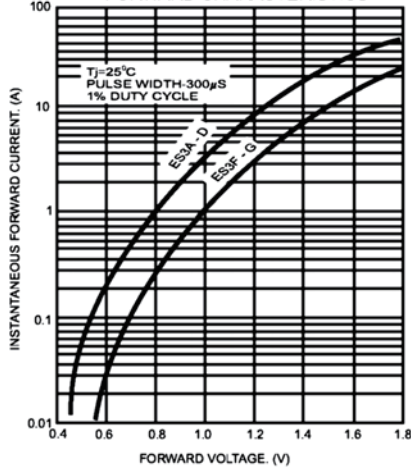


FIG.4- TYPICAL REVERSE CHARACTERISTICS

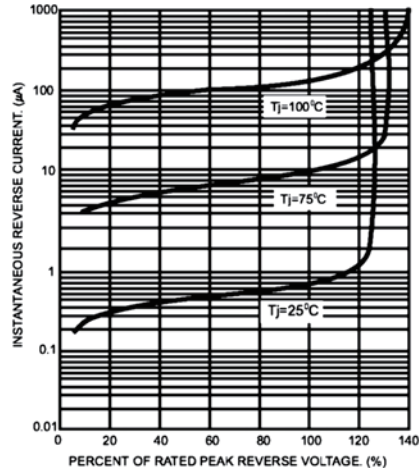


FIG.5- TYPICAL JUNCTION CAPACITANCE

