



ES3A thru ES3M

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

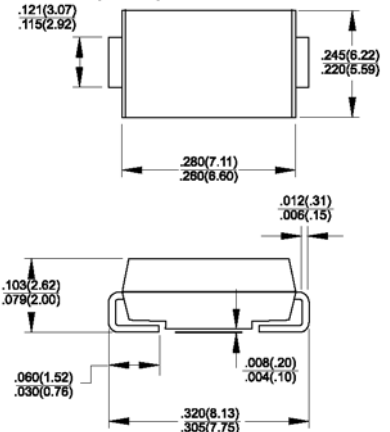
Ratings at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%



DO-214AB (SMC)



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 _J =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					uA uA
Maximum reverse recovery time (Note 1)	t _{tr}	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 $V_R=4.0$ 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

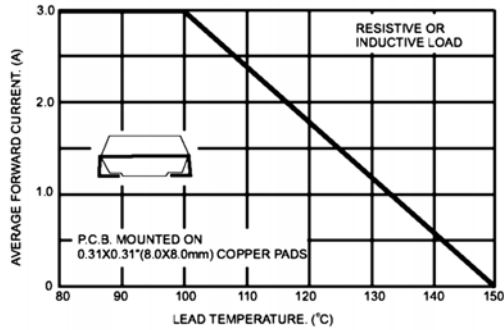


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

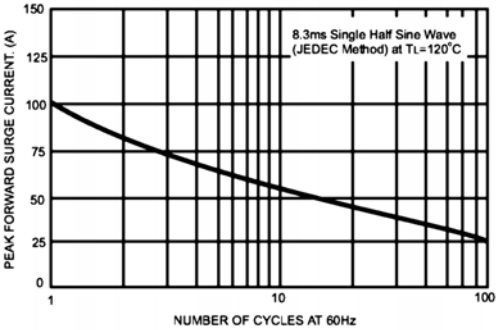


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

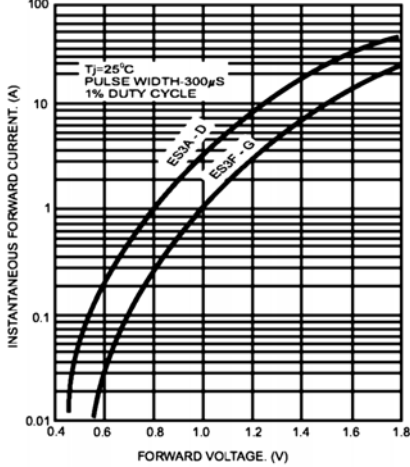


FIG.4- TYPICAL REVERSE CHARACTERISTICS

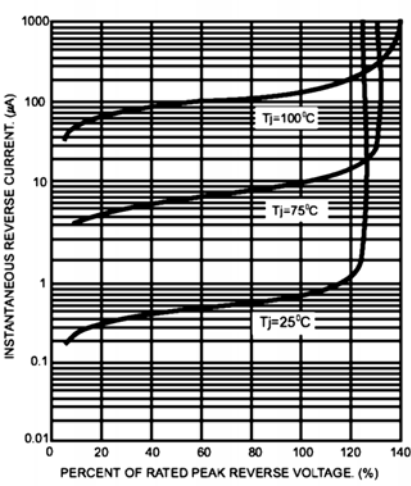


FIG.5- TYPICAL JUNCTION CAPACITANCE

