



ES1A thru ES1M

Super Fast Surface Mount Rectifiers
Reverse Voltage 50 to 1000 Volts Forward Current 1.0 Ampere

Features

- ◆ 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: 0.002 ounce, 0.064 gram

Maximum Ratings and Electrical Characteristics

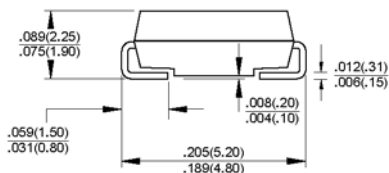
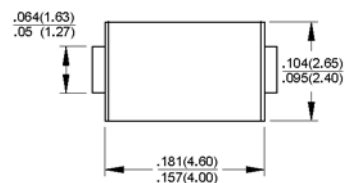
Ratings at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%



DO-214AC (SMA)



Dimensions in inches and (millimeters)

Parameter	Symbols	ES 1A	ES 1B	ES 1C	ES 1D	ES 1F	ES 1G	ES 1J	ES 1K	ES 1M	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)	1.0									Amp
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	30.0									Amps
Maximum instantaneous forward voltage @ 1.0A	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	5.0 100									uA uA
Maximum reverse recovery time (Note 1)	t _{tr}	35									nS
Typical junction capacitance (Note 2)	C _J	10				8				pF	
Typical thermal resistance (Note 3)	R _{θJA} R _{θJL}	85 35									°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. P.C.B. Mounted on 0.2 x 0.2" (5.0 x 5.0mm) Copper Pad Area.

RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

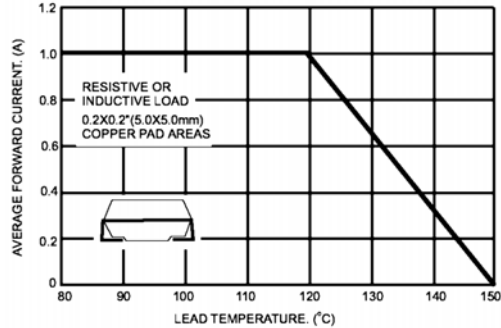


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

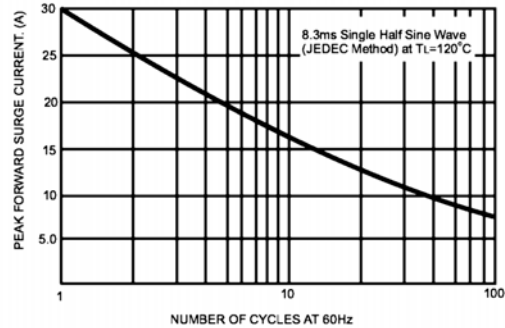


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

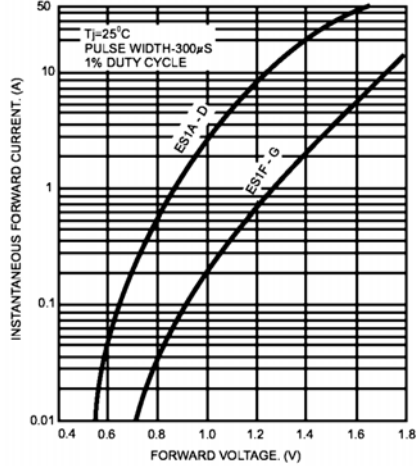


FIG.4- TYPICAL REVERSE CHARACTERISTICS

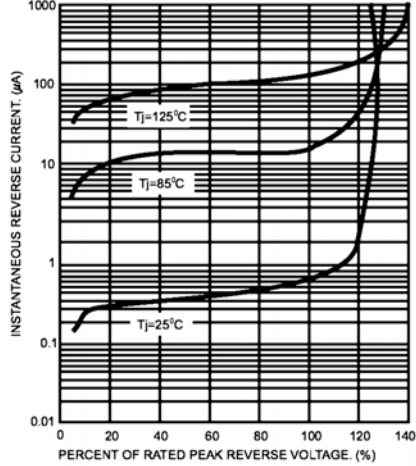


FIG.5- TYPICAL JUNCTION CAPACITANCE

