



# ES1A THRU ES1J

## 1.0 AMP. SUPER FAST SURFACE MOUNT RECTIFIERS

Voltage Range  
50 to 600 Volts  
Current  
1.0 Amperes

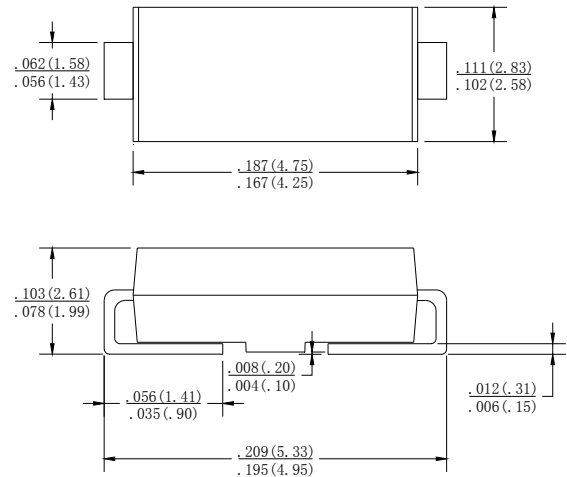
### Features

- Glass passivated junction chip
- For surface mounted application
- Low profile package
- Built-in strain relief,
- Ideal for automated placement
- Easy pick and place
- 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

- Case: molded plastic
- Terminals: Solder plated
- Polarity: Indicated by cathode band
- Packaging: 12mm tape EIA STD RS-481
- Weight: 0.064gram

### SMA



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%

Type Number		ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	UNITS	
Maximum Repetitive Peak Reverse Voltage	VRRM	50	100	150	200	300	400	500	600	V	
Maximum RMS Voltage	VRMS	35	70	105	140	210	280	350	420	V	
Maximum DC blocking Voltage	VDC	50	100	150	200	300	400	500	600	V	
Maximum Average Forward Rectified Current See Fig. 2	IF(AV)	1.0								A	
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	30								A	
Maximum Instantaneous Forward Voltage @1.0A	VF	0.95			1.3		1.7			V	
Maximum DC Reverse Current @ TA=25°C at rated DC blocking voltage @ TA=100°C	IR					5.0 100					μ A
Maximum Reverse Recovery Time(Note 1)	TRR					35				nS	
Typical Thermal Resistance (Note 2)	R θ JA R θ JL					85 35					°C / W
Operating Temperature Range	TJ					-55 to +150				°C	
Storage Temperature Range	TSTG					-55 to +150				°C	

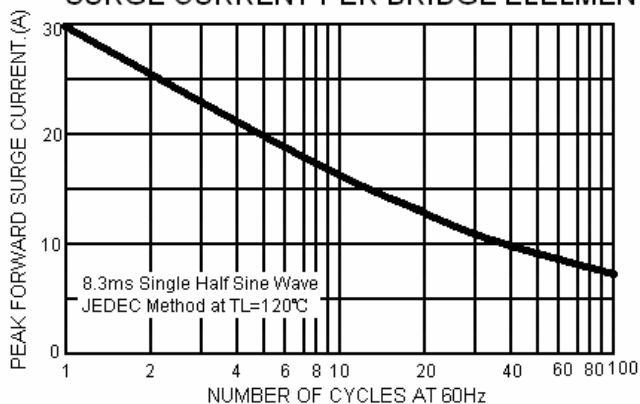
**NOTES:** 1. Reverse Recovery Test conditions: IF=0.5A, IR=1.0A, IRR=0.25A.

2. P.C.B. Mounted on 0.2 x 0.2" (5.0 x 5.0mm) Copper Pad Area.

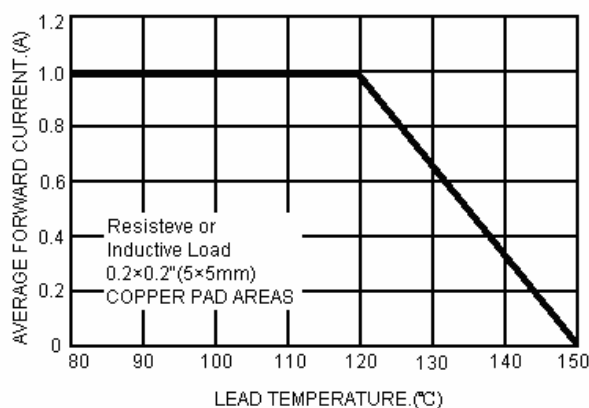
# RATING AND CHARACTERISTIC CURVES ES1A THRU ES1J



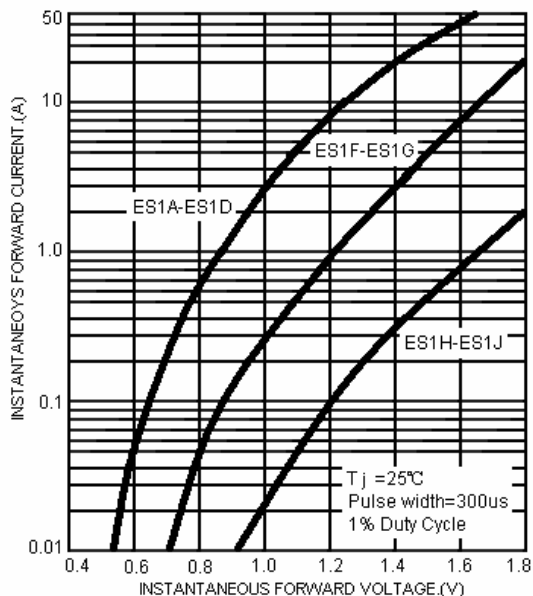
**FIG.1-MAXIMUM NONO-REPETITIVE FORWARD SURGE CURRENT PER BRIDGE ELEMENT**



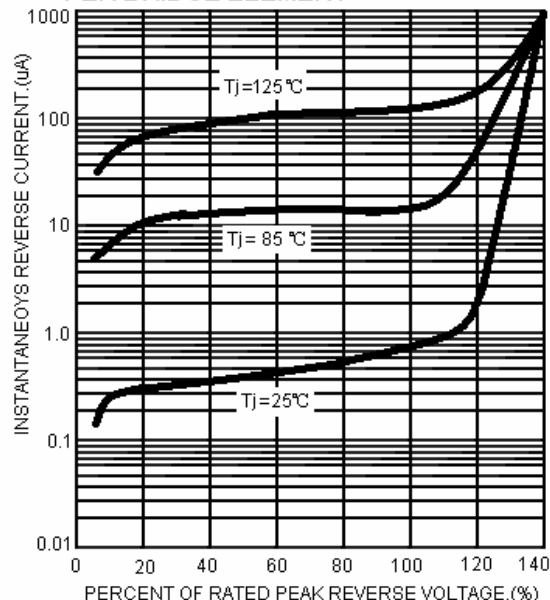
**FIG.2-MAXIMUM FORWARD CURRENT DERATING CURVE**



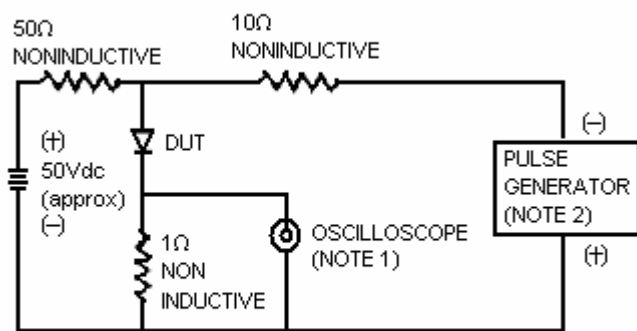
**FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER BRIDGE ELEMENT**



**FIG.4-TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT**



**FIG.5 -REVERSE RECOVER TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



NOTES: 1. Rise Time=7ns max. Input Impedance=1 megohm 22pf  
2. Rise Time=10ns max. Source Impedance =50 ohms

