

Super Fast Recovery Rectifiers

ES1A THRU ES1J 50 to 600 V 1.0 A

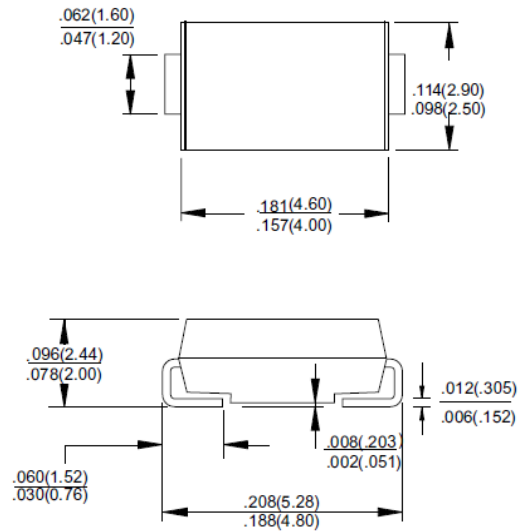
FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Ultrafast reverse recovery time for high efficiency
- Low profile package
- High forward surge capability
- High temperature soldering :
260°C/10 seconds at terminals
- Component in accordance to RoHS 2002/95/1
and WEEE 2002/96/EC

MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic body over passivated chip
- Terminals: Solder plated, solderable per
J-STD-002B and JESD22-B102D
- Polarity: Laser band denotes cathode end

SMA/DO-214AC



Dimensions in inches and (millimeters)

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%.

Type Number	Symbols	ES1A	ES1B	ES1D	ES1G	ES1J	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	Volts
Average Forward Rectified Current @ $T_A = 50^\circ\text{C}$	$I_{(AV)}$	1.0					Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	60					Amp
Maximum Forward Voltage at 1.0A DC	V_F	0.95			1.25	1.7	Volts
Maximum Reverse Current @ Rated $T_J = 25^\circ\text{C}$ Reverse Voltage @ $T_J = 100^\circ\text{C}$	I_R	5.0 50					μAmp
Typical Thermal Resistance $T_J = 25^\circ\text{C}$	$R_{\theta JA}$	35					$^\circ\text{C/W}$
Typical Junction capacitance (Note2)	C_J	10					pF
Maximum Reverse Recovery Time (Note1)	TRR	35					μs
Operating Temperature Range	T_J	-55 to +150					$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150					$^\circ\text{C}$

NOTES:

1. Measured with $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
3. 8.0mm^2 (0.013mm thick) land areas

FIG.1 MAXIMUM AVERAGE FORWARD CURRENT RATING

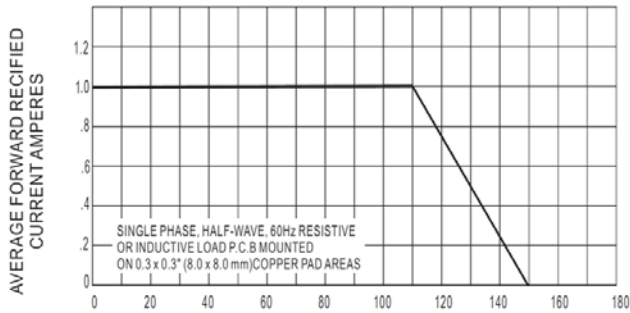


FIG.2 TYPICAL JUNCTION CAPACITANCE

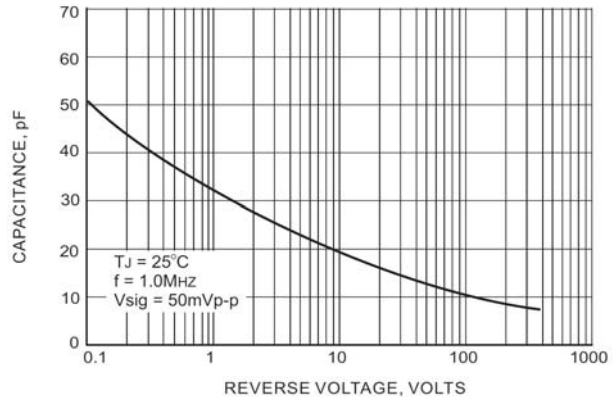


FIG.3 TYPICAL REVERSE CHARACTERISTICS

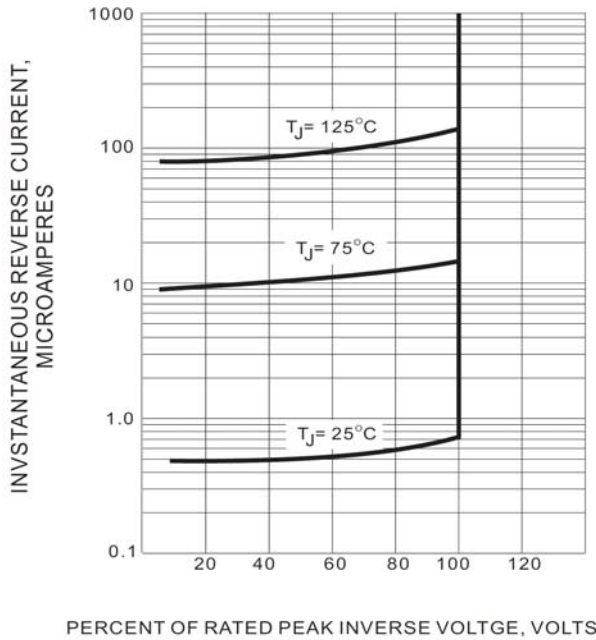


FIG.4 TYPICAL FORWARD CHARACTERISTICS

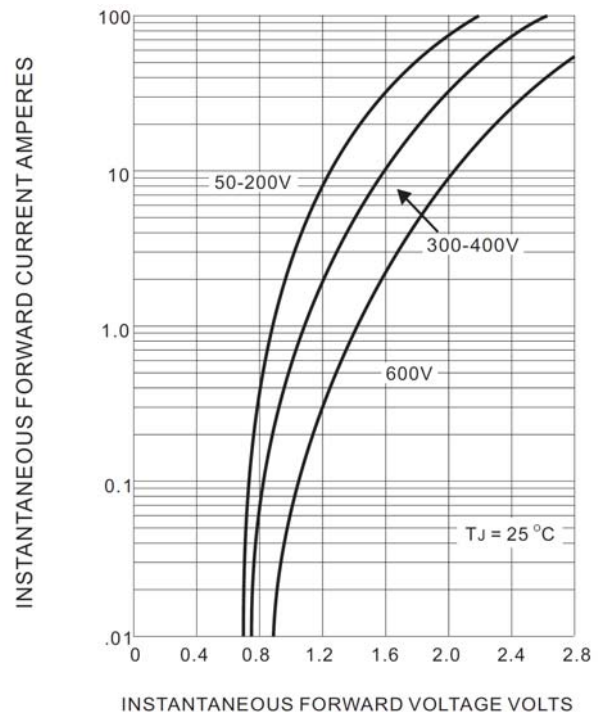


FIG.5 MAXIMUM NON-REPEITIVE SURGE CURRENT

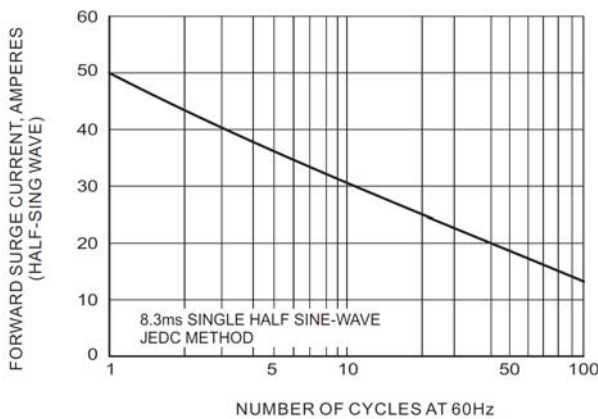


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

