

## SURFACE MOUNT GLASS PASSIVATED JUNCTION SUPER FAST RECOVERY RECTIFIER

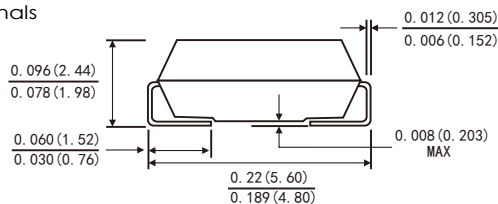
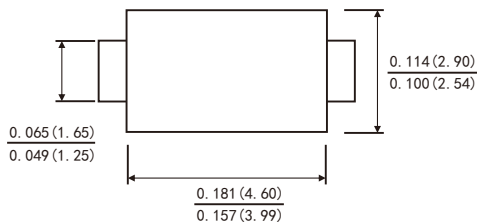
Reverse Voltage: 50 to 600 Volts  
Forward Current: 1.0 Ampere

### FEATURES

- Glass passivated cavity-free junction
- Ideal for surface mount automotive applications
- Ultrafast recovery time for high efficiency
- Built-in strain relief
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Lead (Pb)-free component
- Component in accordance to RoHS 2011/65/EU
- High temperature soldering guaranteed: 260°C/10 seconds at terminals



### SMA(DO-214AC)



Dimensions in inches and (millimeters)

### MECHANICAL DATA

- Case: JEDEC SMA(DO-214AC) molded plastic body
- Terminals: Solder Plated, solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.002ounce, 0.064 gram

### 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%.)

	Symbols	ES1					Units
		A	B	D	G	J	
Maximum Repetitive 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
Maximum Average Forward Rectified Current at $T_a=100^\circ\text{C}$	$I_{(AV)}$	1.0					Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30					Amps
Maximum Instantaneous Forward Voltage at 1.0 A	$V_F$	0.95			1.3	1.7	Volts
Maximum DC Reverse Current At Rated DC Blocking Voltage	$T_a=25^\circ\text{C}$	5					$\mu\text{A}$
	$T_a=125^\circ\text{C}$	100					
Maximum Reverse Recovery Time(Note1)	$T_{rr}$	35					ns
Typical Junction Capacitance(Note2)	$C_j$	25					pF
Typical Thermal Resistance (Note3)	$R_{\theta JA}$	90					$^\circ\text{C/W}$
	$R_{\theta JL}$	30					
Operating Junction and Storage Temperature	$T_j, T_{stg}$	-55 to +150					$^\circ\text{C}$

Note: 1. Test conditions:  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{RR}=0.25\text{A}$ .

2. Measured at 1MHz and applied reverse voltage of 4.0 Volts.

3. Thermal resistance from junction to ambient P. C. B. mounted on 0.2x0.2" (5.0x5.0mm) copper pad areas.

# RATINGS AND CHARACTERISTIC CURVES ES1A THRU ES1J

FIG.1- FORWARD CURRENT DERATING CURVE

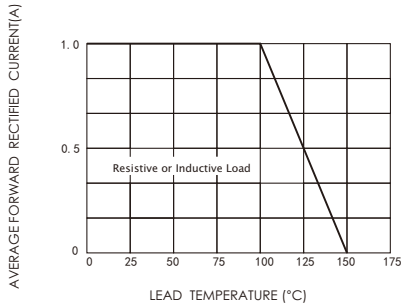


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

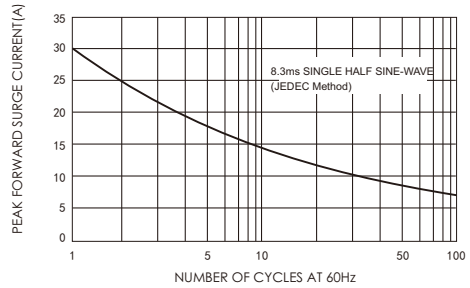


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

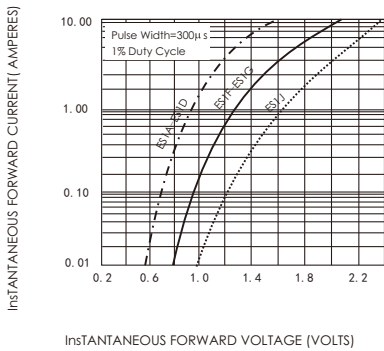


FIG.4-TYPICAL REVERSE CHARACTERISTICS

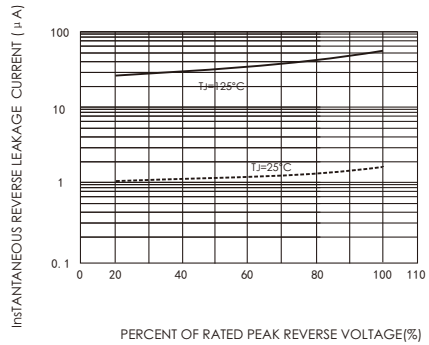


FIG.5-TYPICAL JUNCTION CAPACITANCE

