

ES1AS THRU ES1JS

SURFACE MOUNT GLASS PASSIVATED JUNCTION SUPER FAST RECOVERY RECTIFIER

Reverse Voltage: 50 to 600 Volts

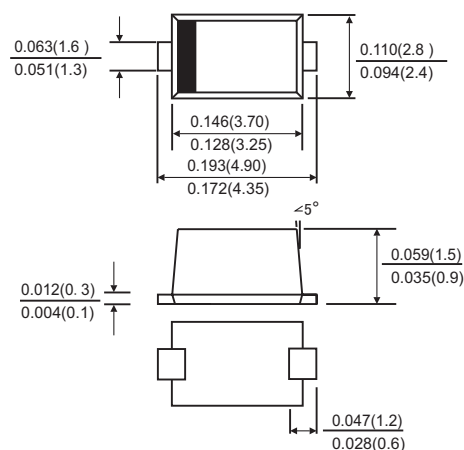
Forward Current: 1.0 Ampere

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



SMAF



MECHANICAL DATA

- Case: SMAF molded plastic body
- Terminals: Solder Plated, solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end

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%.)

	Symbols	ES1					Units
		AS	BS	DS	GS	JS	
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		1.25	1.7	Volts	
Maximum DC Reverse Current At Rated DC Blocking Voltage	$T_a=25^\circ\text{C}$	5					μA
	$T_a=100^\circ\text{C}$	50					
Maximum Reverse Recovery Time(Note1)	T_{rr}	35					ns
Typical Junction Capacitance(Note2)	C_J	15					pF
Typical Thermal Resistance(Note3)	$R_{\theta JA}$	50					$^\circ\text{C}/\text{W}$
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. P. C. B. mounted on 0.2x0.2" (5.0x5.0mm) copper pad areas.

RATINGS AND CHARACTERISTIC CURVES ES1AS THRU ES1JS

FIG.1- FORWARD CURRENT DERATING CURVE

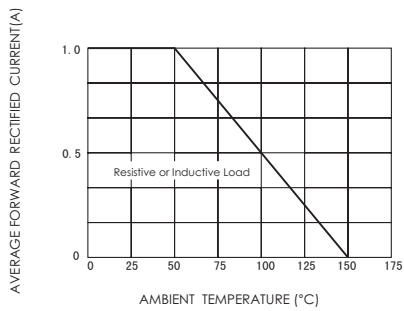


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

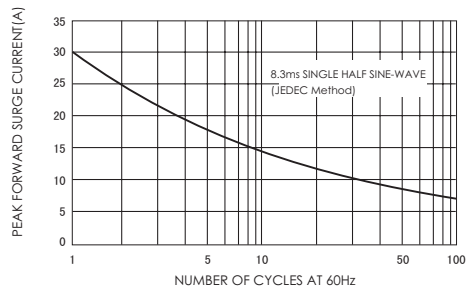


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

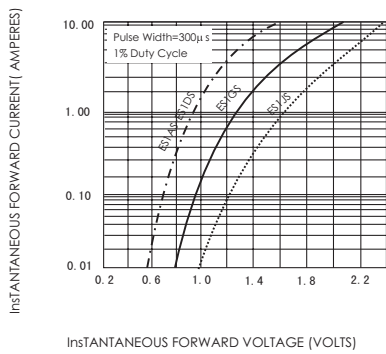


FIG.4-TYPICAL REVERSE CHARACTERISTICS

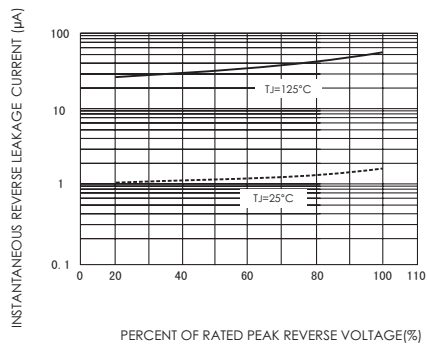


FIG.5-TYPICAL JUNCTION CAPACITANCE

