

AUTOMOTIVE SURFACE MOUNT GLASS PASSIVATED JUNCTION SUPER FAST RECOVERY RECTIFIER

Reverse Voltage: 700 Volts
Forward Current:1.0Ampere

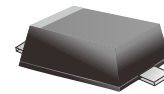
Features

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 2015/863/EU
High temperature soldering guaranteed:260°C/10 seconds at terminals
AEC-Q101 qualified and PPAP capable



AEC-Q101 Qualified

SMAF



MARKING:
W-Work week
M-Work month
Y-Work year
S-Assembly location
ES1JS: Device code
V: for automobile

Mechanical Data

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

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%.)

Parameter	Symbols	Value	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	700	Volts
Maximum RMS Voltage	V_{RMS}	490	Volts
Maximum DC Blocking Voltage	V_{DC}	700	Volts
Maximum Average Forward Rectified Current at $T_A=100^{\circ}C$	$I_{(AV)}$	1.0	Amps
Peak Forward Surge Current 8.3ms single half sine -wave superimposed on rated load (JEDEC method)	I_{FSM}	25	Amps
Maximum Instantaneous Forward Voltage at $I_F=$	V_F	0.8 A	Volts
		1.0 A	
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	$T_A=25^{\circ}C$	μA
		$T_A=125^{\circ}C$	
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	$^{\circ}C/W$
	$R_{\theta JC}$	26	
Operating Junction and Storage Temperature	T_J, T_{STG}	-55 to+150	$^{\circ}C$

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

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.

FIG.1- FORWARD CURRENT DERATING CURVE

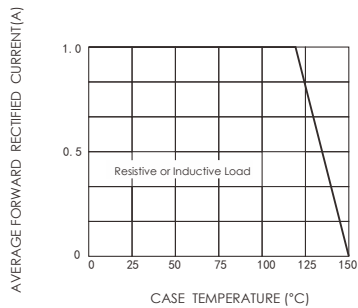


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

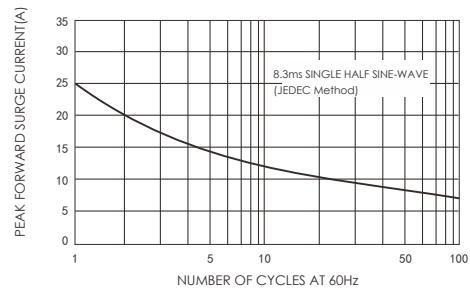


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

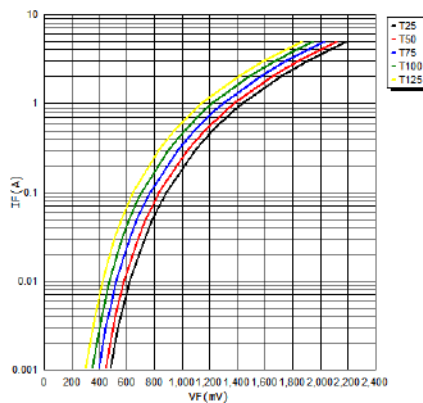


FIG.4-TYPICAL REVERSE CHARACTERISTICS

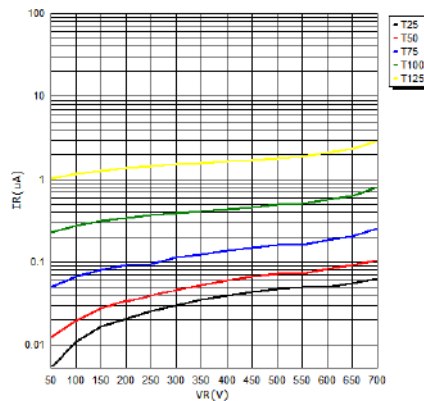
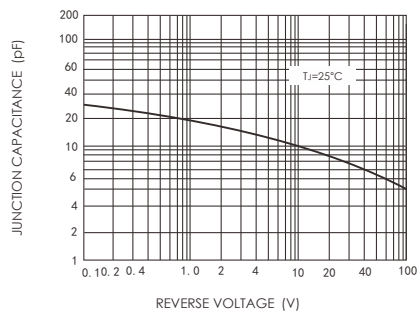
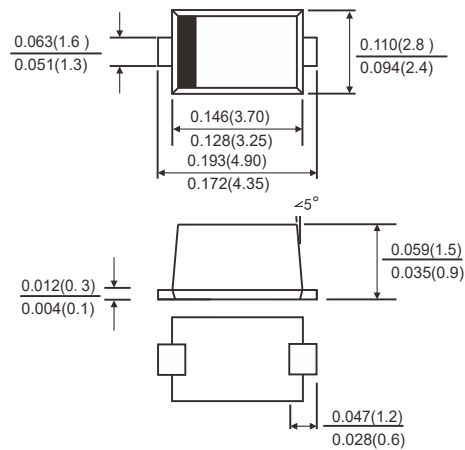


FIG.5-TYPICAL JUNCTION CAPACITANCE

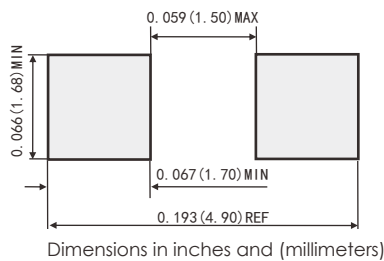


SMAF



Dimensions in inches and (millimeters)

Suggested PAD Layout



Dimensions in inches and (millimeters)