SEMICONDUCTOR

ES1A THRU ES1M

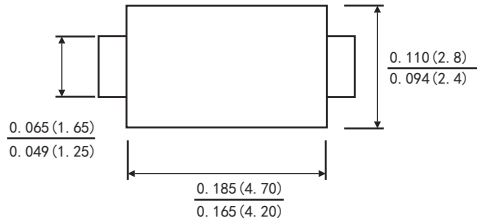
SURFACE MOUNT GLASS PASSIVATED JUNCTION SUPER FAST RECOVERY RECTIFIER

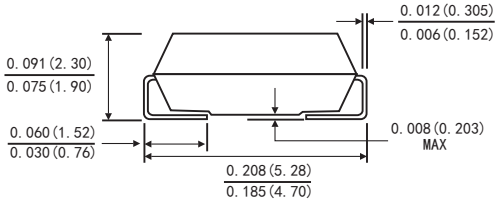
Reverse Voltage: 50 to 1000 Volts
Forward Current:1.0Ampere

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 2002/95/EC and WEEE 2002/96/EC
- 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	K	M	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at Ta=110℃	$I_{(AV)}$	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℃	I_R	5							μA
T_A=100℃		100							
Maximum Reverse Recovery Time(Note1)	Trr	35					100		ns
Typical Junction Capacitance(Note2)	C_J	15							pF
Typical Thermal Resistance	$R_{\theta JA}$	90							°C/W
	$R_{\theta JC}$	30							
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to+150							˚C

Note: 1.Test conditions: IF=0.5A,IR=1.0A,IRR=0.25A.
2.Measured at 1MHZ and applied reverse voltage of 4.0 Volts.

RATINGS AND CHARACTERISTIC CURVES ES1A THRU ES1M

FIG.1- FORWARD CURRENT DERATING CURVE

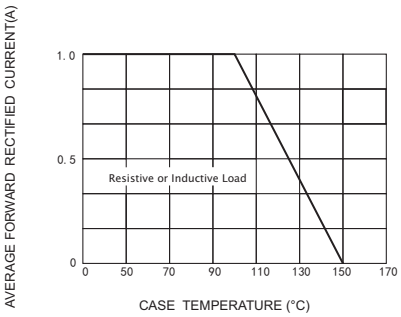


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

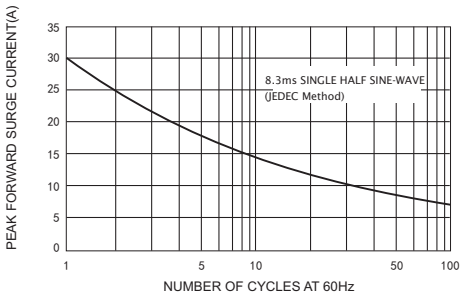


FIG.3-TYPICAL InsTANTANEOUS FORWARD CHARACTERISTICS

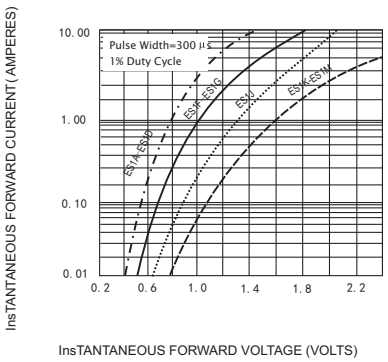


FIG.4-TYPICAL REVERSE CHARACTERISTICS

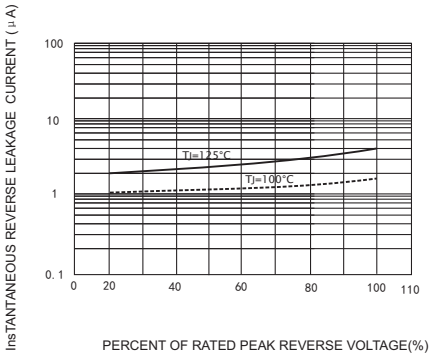


FIG.5-TYPICAL JUNCTION CAPACITANCE