



ES3A THRU ES3J

SURFACE MOUNT GLASS PASSIVATED JUNCTION ULTRAFAST EFFICIENT RECTIFIER

Reverse Voltage: 50 to 600 Volts

Forward Current:3.0Amperes

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

Mechanical Data

Case: JEDEC SMB(DO-214AA) molded plastic body

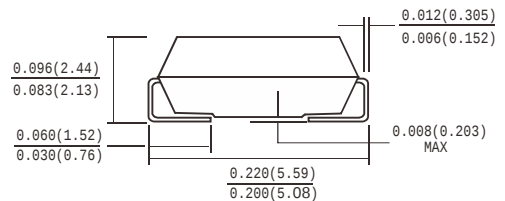
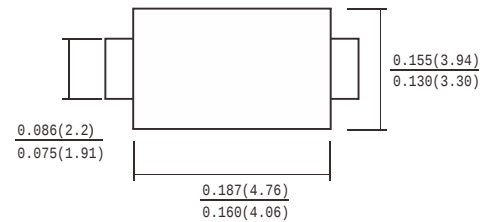
TerMINals: solder plated ,solderable per MIL-STD-750,method 2026

Polarity: color band denotes cathode end

Mounting Position: Any

Weight: 0.003ounce,0.093 gram

SMB(DO-214AA)



Dimensions in inches and (millimeters)

Maximum Ratings & Thermal 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	ES3						Units	
			A	B	D	F	G	J		
Maximum Repetitive Peak Reverse Voltage		V _{RRM}	50	100	200	300	400	600		Volts
Maximum RMS Voltage		V _{RMS}	35	70	140	210	280	420		Volts
Maximum DC Blocking Voltage		V _{DC}	50	100	200	300	400	600		Volts
Maximum Average Forward Rectified Current At T _L =110°C		I _(AV)	3.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load		I _{FSM}	115				105			Amps
Maximum Instantaneous Forward Voltage at 3.0 A		V _F	0.95			1.25		1.7		Volts
Maximum DC Reverse Current At Rated DC Blocking Voltage	T _A =25°C	I _R θ	5.0						μA	
	T _A =125°C		120							
Maximum Reverse Recovery Time(Note1)		T _{rr}	35						ns	
Typical Junction Capacitance(Note2)		C _j	45						pF	
Typical Thermal Resistance(NOTE3)		R _{JA}	16						°C/W	
Operating Junction and Storage Temperature Range		T _J , T _{STG}	-55 to +150						°C	

Note: 1.Reverse Recovery 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.Thermal Resistance From Junction To Ambient P.C.B. Mounted On 0.2x0.2"(5.0x5.0mm)Copper Pad Areas.

Rating and Characteristic Curves ($T_A = 25^{\circ}\text{C}$ Unless otherwise noted)
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FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

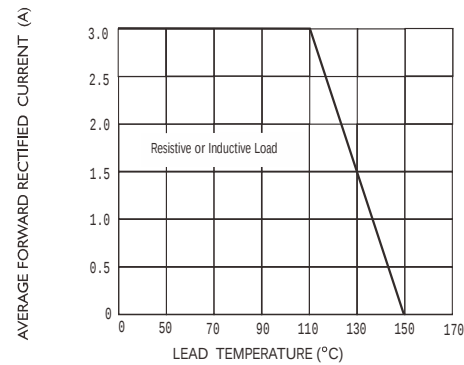


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

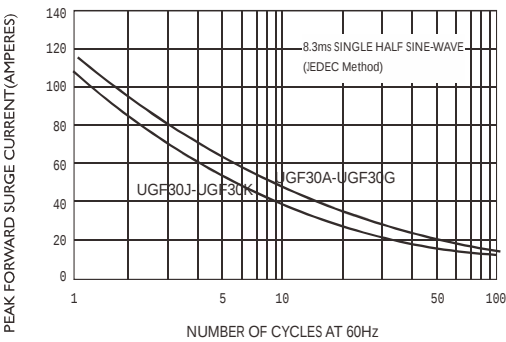


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

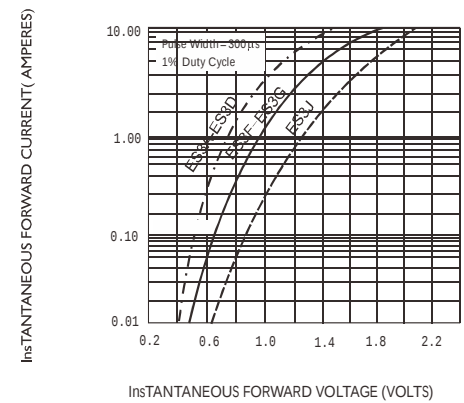


FIG.4-TYPICAL REVERSE CHARACTERISTICS

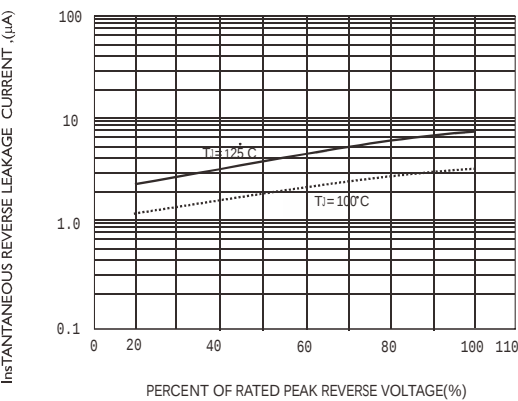


FIG.5-TYPICAL JUNCTION CAPACITANCE

