



ES3A THRU ES3K

SURFACE MOUNT GLASS PASSIVATED JUNCTION SUPER FAST RECOVERY RECTIFIER

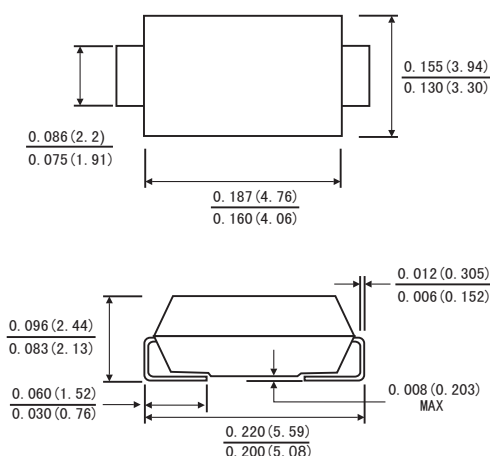
Reverse Voltage: 50 to 800 Volts
Forward Current: 3.0 Amperes

FEATURES

- Glass passivated
- 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



SMB(DO-214AA)



Dimensions in inches and (millimeters)

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

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	ES3							Units
		A	B	D	F	G	J	K	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	300	400	600	800	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	210	280	420	560	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	300	400	600	800	Volts
Maximum Average Forward Rectified Current At $T_L=110^\circ\text{C}$	$I_{(AV)}$	3.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	100							Amps
Maximum Instantaneous Forward Voltage at 3.0 A	V_F	0.95			1.25		1.7	2.2	Volts
Maximum DC Reverse Current At Rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	10							μA
	$T_A=125^\circ\text{C}$	500							
Maximum Reverse Recovery Time(Note1)	T_{rr}	35							ns
Typical Junction Capacitance(Note2)	C_J	45							pF
Typical Thermal Resistance (NOTE3)	$R_{\theta JA}$	70							$^\circ\text{C}/\text{W}$
Operating Junction and Storage Temperature	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

Note: 1. Reverse Recovery 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 ES3A THRU ES3K

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

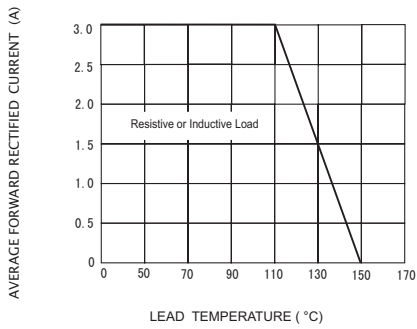


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

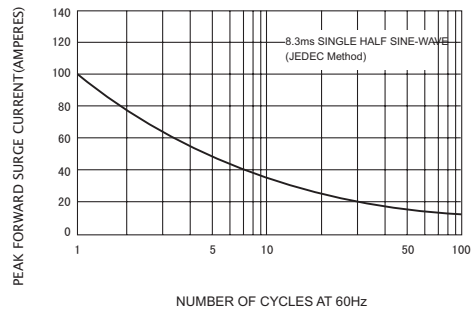


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

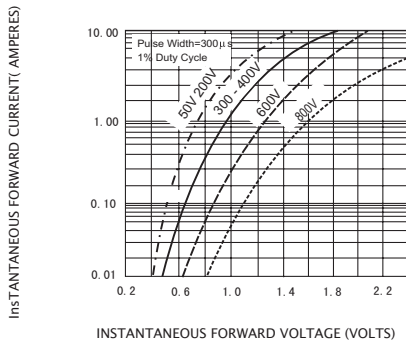


FIG.4-TYPICAL REVERSE CHARACTERISTICS

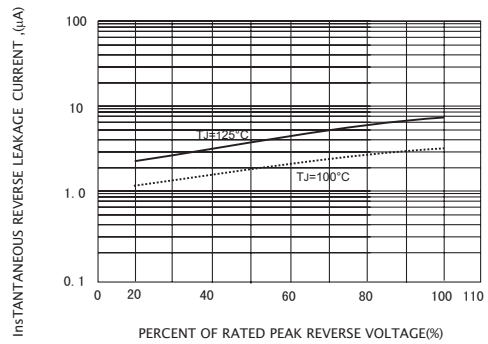
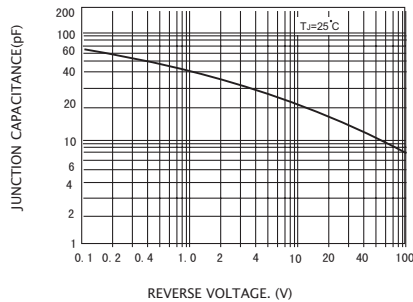


FIG.5-TYPICAL JUNCTION CAPACITANCE



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