



# ES3A THRU ES3K

## SURFACE MOUNT GLASS PASSIVATED JUNCTION SUPER FAST RECOVERY RECTIFIER

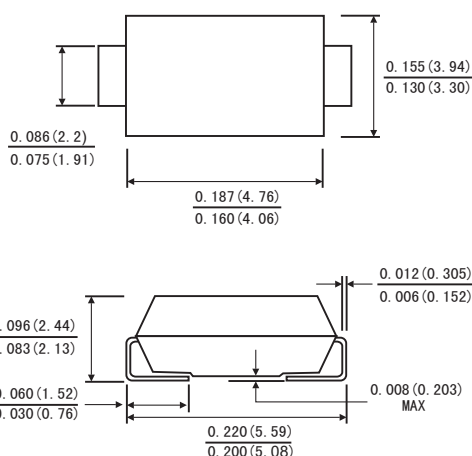
Reverse Voltage: 50 to 800 Volts  
Forward Current: 3.0 Amperes

### 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							$\mu\text{A}$
	$T_A=125^\circ\text{C}$	500							
Maximum Reverse Recovery Time(Note 1)	$T_{rr}$	35							ns
Typical Junction Capacitance(Note 2)	$C_J$	45							pF
Typical Thermal Resistance (NOTE 3)	$R_{\theta JA}$	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

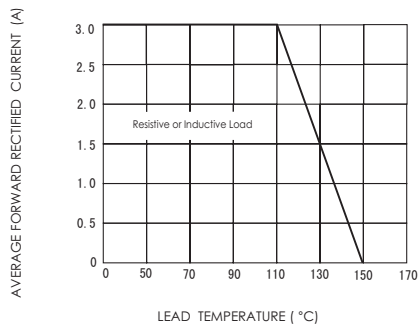


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

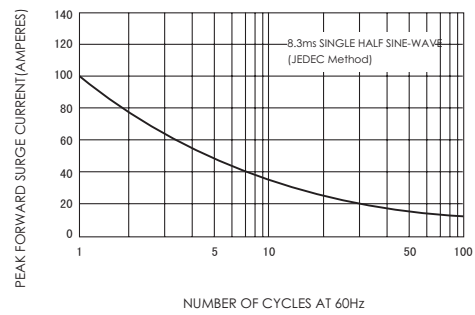


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

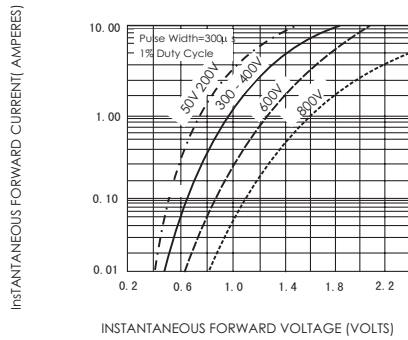


FIG.4-TYPICAL REVERSE CHARACTERISTICS

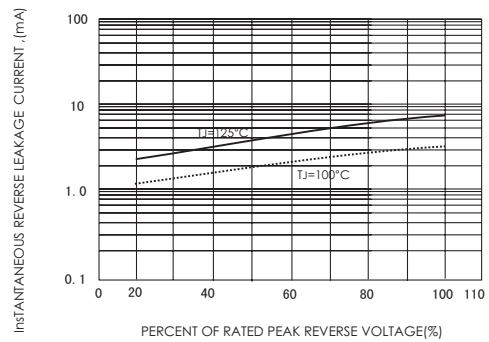


FIG.5-TYPICAL JUNCTION CAPACITANCE

