

# ES2A THRU ES2M

## SURFACE MOUNT GLASS PASSIVATED JUNCTION SUPER FAST RECOVERY RECTIFIER

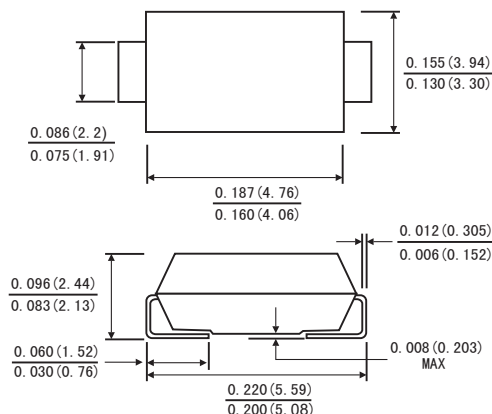
Reverse Voltage: 50 to 800 Volts  
Forward Current: 2.0 Ampere

### 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



### SMB(DO-214AA)



### 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	ES2							Units
		A	B	D	G	J	K	M	
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at Ta=110 °C	I <sub>(AV)</sub>	2.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	50							Amps
Maximum Instantaneous Forward Voltage at 2.0 A	V <sub>F</sub>	0.95		1.3	1.7			Volts	
Maximum DC Reverse Current At Rated DC Blocking Voltage	T <sub>A</sub> =25 °C	10							μA
	T <sub>A</sub> =100 °C	350							
Maximum Reverse Recovery Time(Note1)	T <sub>rr</sub>	35					100		ns
Typical Junction Capacitance(Note2)	C <sub>J</sub>	25							pF
Typical Thermal Resistance(Note3)	R <sub>θJA</sub>	75							°C/W
	R <sub>θJL</sub>	20							
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

Note: 1. Test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=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.

# RATINGS AND CHARACTERISTIC CURVES ES2A THRU ES2M

FIG.1- FORWARD CURRENT DERATING CURVE

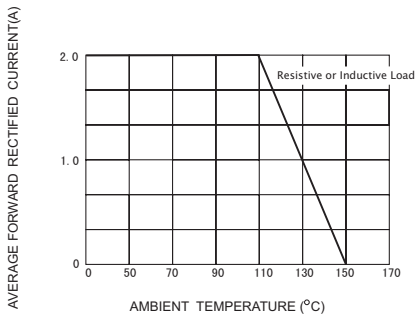


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

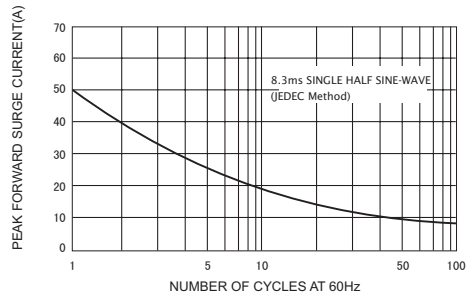


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

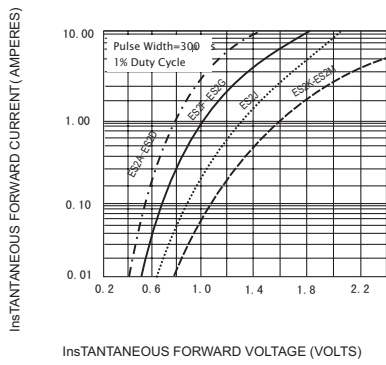


FIG.4-TYPICAL REVERSE CHARACTERISTICS

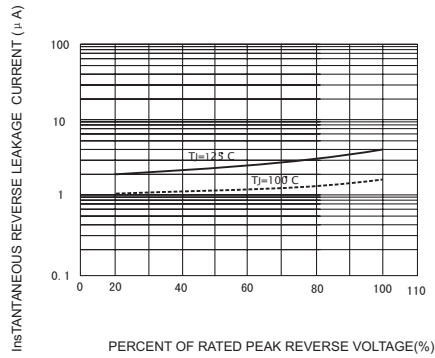


FIG.5-TYPICAL JUNCTION CAPACITANCE

