ES3MB

GLASS PASSIVATED JUNCTION ULTRA FAST RECOVERY RECTIFIER

Reverse Voltage: 1000 Volts
Forward Current:3.0Ampere

SEMICONDUCTOR

FEATURES

- Glass passivated junction
- For Surface Mount Applications, Easy to pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low forward voltage drop
- High current capability, High reliability
- Low power loss, high efficiency
- High surge current capability
- High speed switching, Low leakage
- High temperature soldering guaranteed:260°C/10 seconds at terminals,
- Component in accordance to RoHS 2015/863/EU

Pb
RoHS
COMPLIANT

SMB(DO-214AA)

Cathode ⟶ Anode

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
- Weight: 0.003ounce, 0.093 gram

TYPICAL APPLICATIONS

For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications

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%.)

Parameters		Symbols	Value	Units
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	1000	V
Maximum RMS Voltage		V_{RMS}	700	V
Maximum DC Blocking Voltage		V_{DC}	1000	V
Maximum Average Forward Rectified Current		$I_{F(AV)}$	3.0	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)		I_{FSM}	100	A
Maximum Instantaneous Forward Voltage at 3.0A		V_F	1.7	V
Maximum DC Reverse Current at rated DC blocking voltage	T_A=25°C	I_R	5.0	μA
	T_A=125°C		100	
Maximum reverse recovery time(Note1)		trr	75	ns
Typical junction capacitance(Note2)		C_J	25	pF
Typical Thermal Resistance(Note3)		$R_{\theta JA}$ $R_{\theta JL}$	75 20	°C/W
Operating junction and storage temperature range		T_J, T_{STG}	-55 to+150	℃

Note: 1.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.Units mounted on PCB 5.0 mm x 5.0 mm (0.013 mm thick) land areas

RATINGS AND CHARACTERISTIC CURVES ES3MB

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

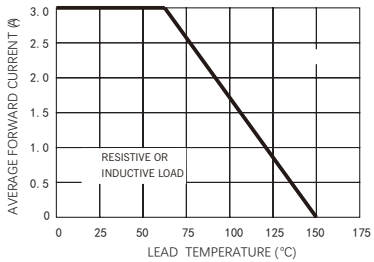


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

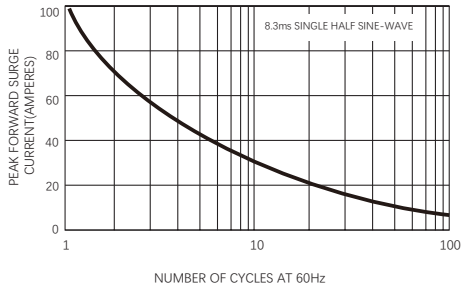


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

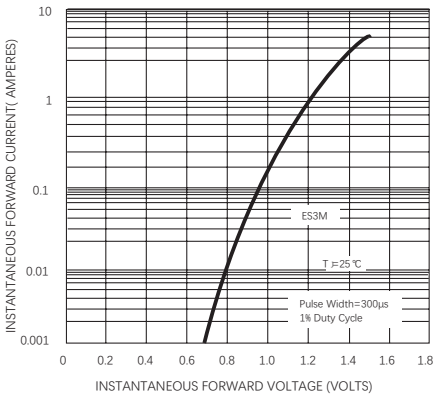


FIG.4-TYPICAL REVERSE CHARACTERISTICS

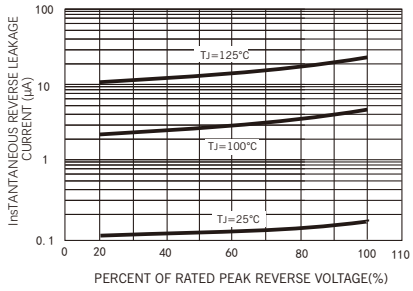


FIG.5-TYPICAL JUNCTION CAPACITANCE

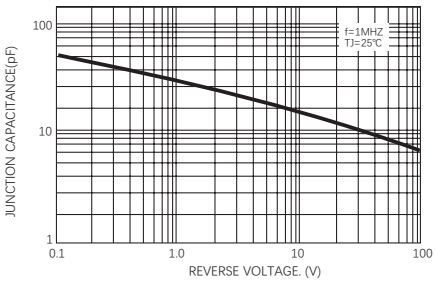
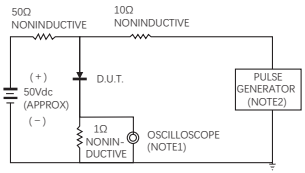
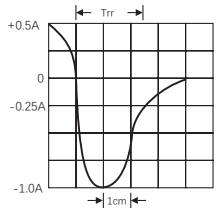


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES:1.Rise Time=7ns max. input impedance=1 megohm 22pF
2.Rise Time=10ns max. source impedance= 50 ohms

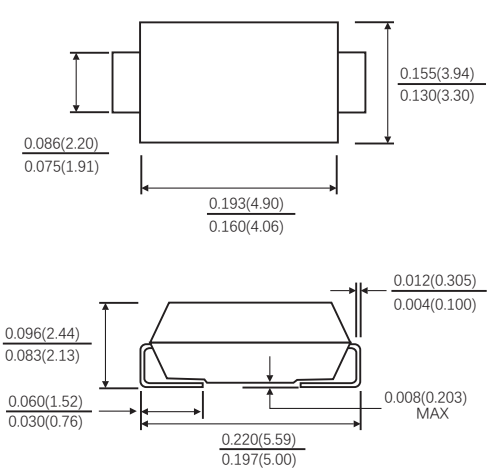


AVAILABALE PACK INFORMATION

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Box Size L×W×H (mm)	Quantity (reel/box)	Carton Size L×W×H (mm)	Quantity (box/carton)	Quantity (carton) (K)
ES3MB-SMB	T/R	Φ330	3000	330×333×35	2	370×370×360	8	48

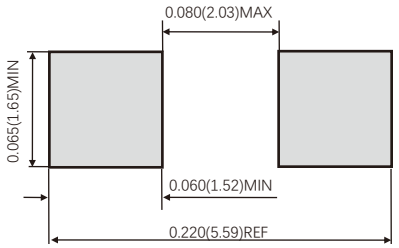
PACKAGE OUTLINE DIMENSIONS

SMB(DO-214AA)



Dimensions in inches and (millimeters)

Suggested PAD Layout



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