

Features

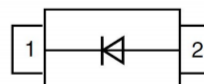
- Schottky barrier diodes
- Low forward voltage drop
- High Junction Temperature
- Moisture sensitivity: level 1, per J-STD-020
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0



SMB(DO-214AA)

Applications

For use in low voltage, high frequency inverters, free wheeling, and polarity protection application



Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	MBRS140T3G-JSM	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	40	V
Maximum RMS voltage	V_{RMS}	40	V
Maximum DC blocking voltage	V_{DC}	40	V
Maximum average forward rectified current	$I_{F(AV)}$	1.0	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	40	A
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 125	°C

Electrical Characteristics

($T_A = 25\text{ °C}$ unless otherwise specified)

Parameter	Test Conditions	Symbol	MBRS140T3G-JSM	Unit
Maximum instantaneous forward voltage	$I_F=3A, T_A=25\text{ °C}$	V_F	0.6	V
Maximum DC reverse current at rated DC blocking voltage	$T_A=25\text{ °C}$	I_R	1.0	mA
	$T_A=100\text{ °C}$		10	
Typical junction capacitance	4.0 V, 1 MHz	C_J	110	pF

Thermal Characteristics

Parameter	Symbol	MBRS140T3G-JSM	Unit
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	12	°C/W
	$R_{\theta JC}$	12	
	$R_{\theta JL}$	12	

Note1: Thermal resistance from junction to lead, mounted on PCB with 5.0×5.0mm copper pads

Ordering Information

Order number	Package	Marking	Operation Temperature Range	MSL Grade	Ship, Quantity	Green
MBRS140T3G-JSM	SMB(DO-214AA)	B14	-63 to 125 °C	3	T&R, 2500	RoHS

Typical Characteristics ($T_{amb} = 25^{\circ}\text{C}$ unless otherwise specified)

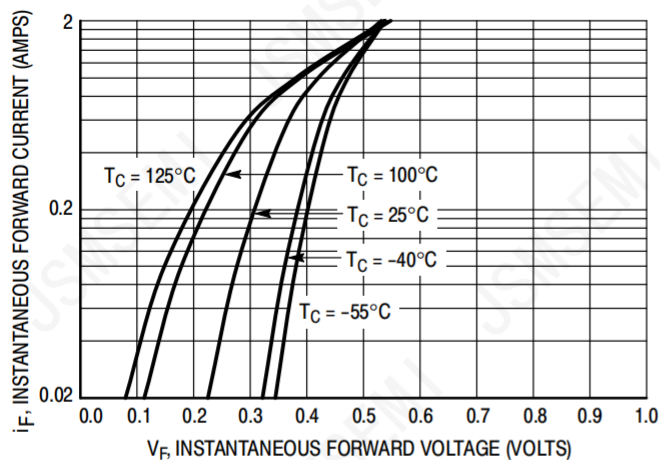


Figure 1. Typical Forward Voltage

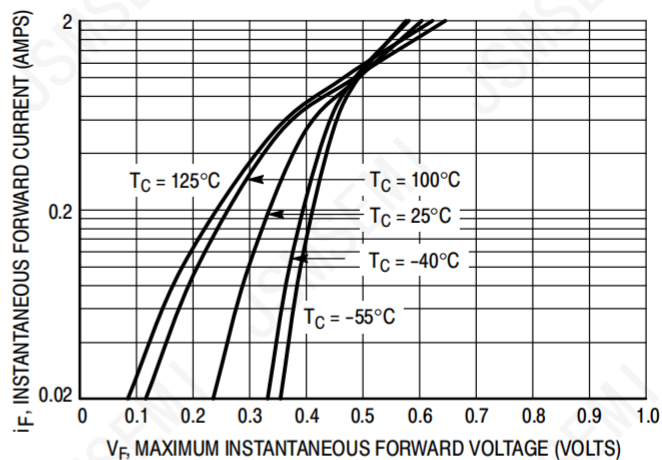


Figure 2. Maximum Forward Voltage

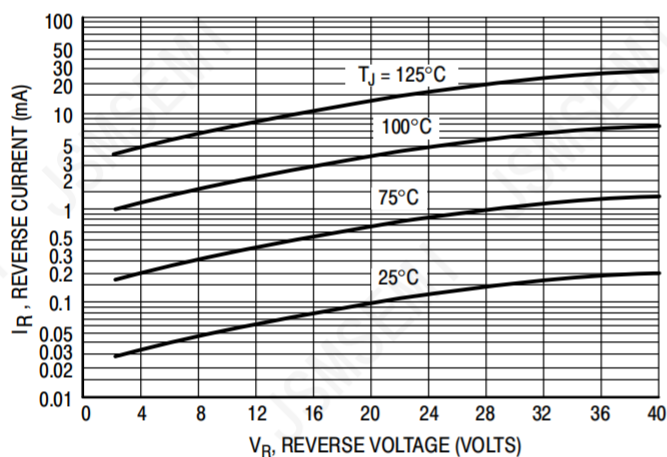


Figure 3. Typical Reverse Current

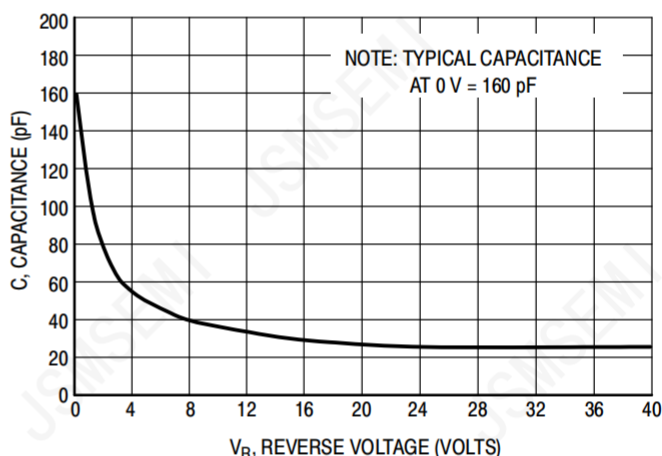


Figure 4. Typical Capacitance

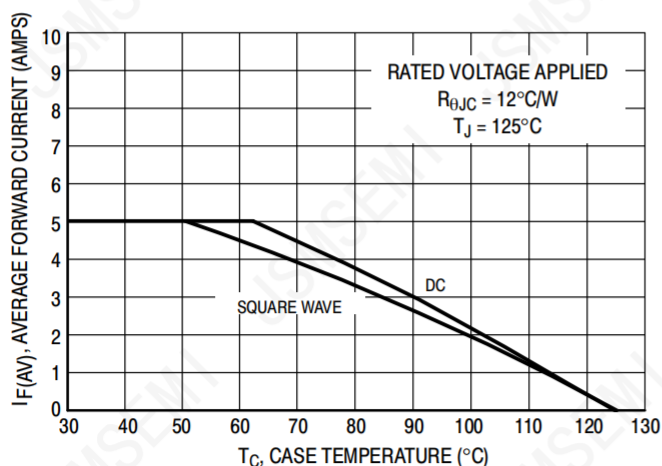


Figure 5. Current Derating (Case)

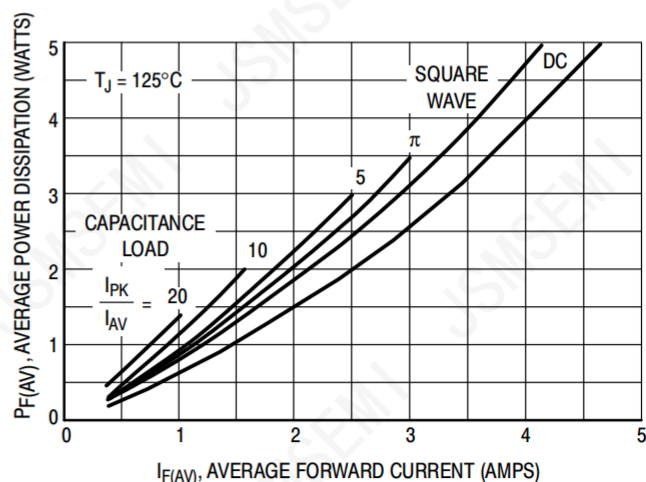
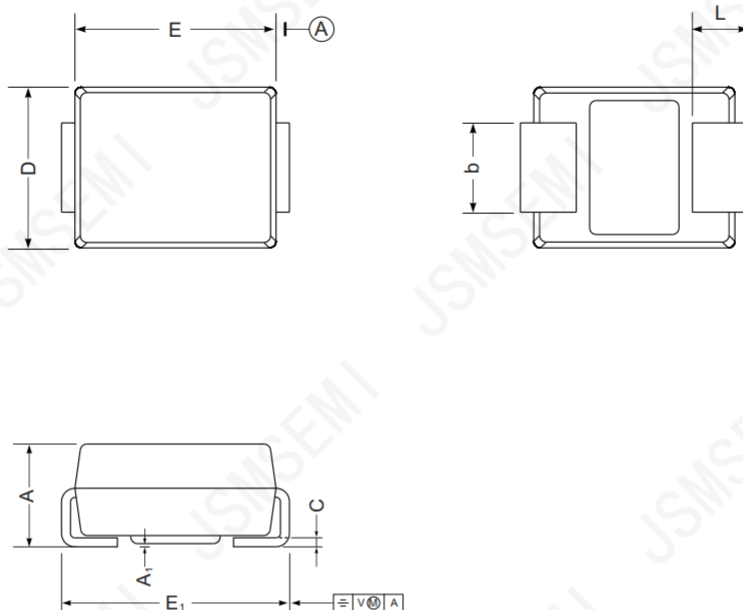


Figure 6. Power Dissipation

Package Information

SMB(DO-214AA)

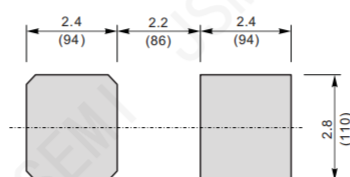
Plastic surface mounted package; 2 leads



SMB mechanical data

UNIT		A	E	D	E ₁	A ₁	L	C	b
mm	max	2.44	4.70	3.94	5.59	0.20	1.5	0.305	2.11
	min	2.13	4.06	3.3	5.08	0.05	0.8	0.152	1.91
mil	max	96	185	155	220	7.9	59	12	83
	min	84	160	130	200	2.0	32	6	75

The recommended mounting pad size



Unit : $\frac{\text{mm}}{(\text{mil})}$

Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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