

Features

- ▶ For use in low voltage, high frequency inverters
- ▶ Free wheeling, and polarity protection applications

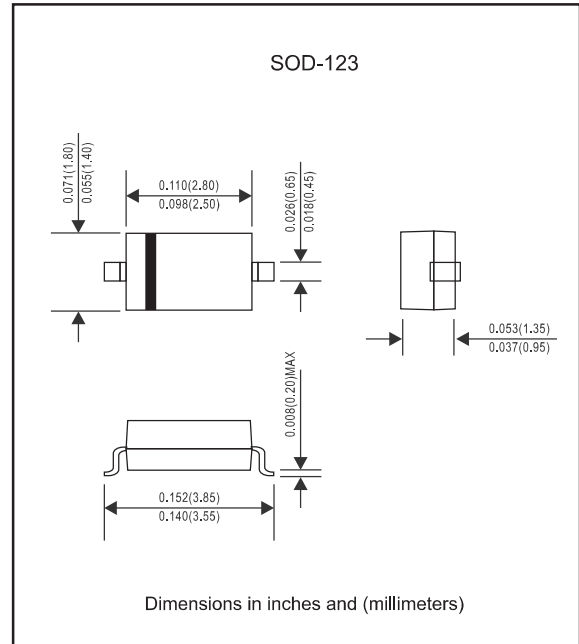
Mechanical data

- ▶ **Case:** JEDEC SOD-123 molded plastic body
- ▶ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ▶ **Polarity:** Color band denotes cathode end
- ▶ **Mounting Position:** Any
- ▶ **Marking:**

MBR0520T1G: SD
 MBR0530T1G: SE
 MBR0540T1G: SF



Package outline

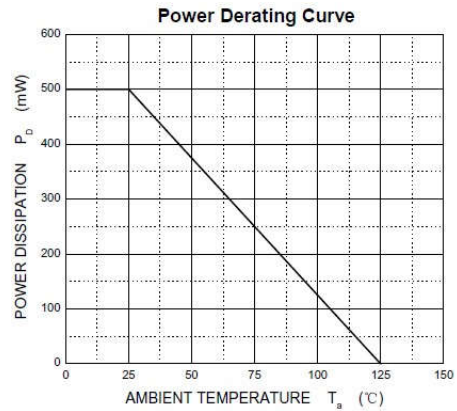
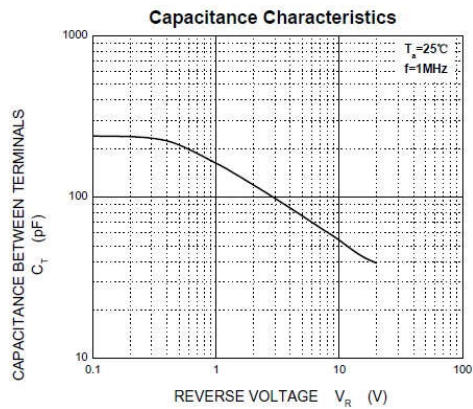
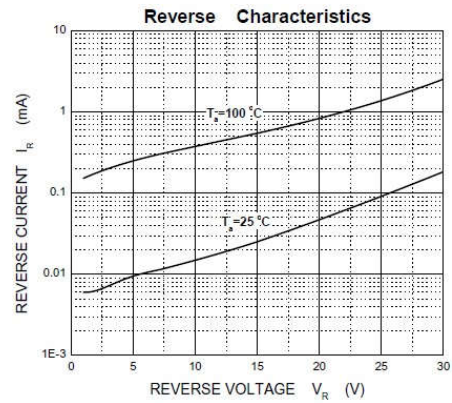
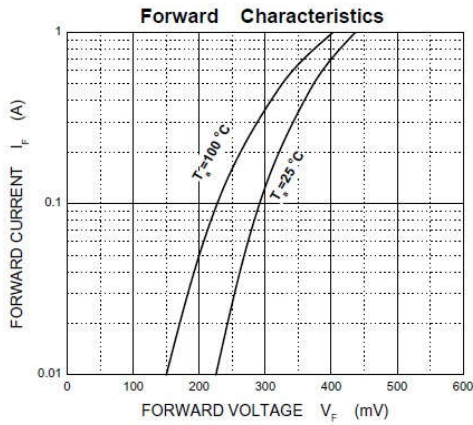


Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)



PARAMETER	SYMBOLS	MBR0520T1G	MBR0530T1G	MBR0540T1G	UNITS
Peak repetitive peak reverse voltage	V_{RRM}				
Working peak DC Blocking voltage	V_{RWM} V_R	20	30	40	V
RMS Reverse voltage	$V_{R(RMS)}$	14	21	28	V
Average rectified output current	I_o		0.5		A
Peak forward surge current @=8.3ms	I_{FSM}		5.5		A
Power dissipation	P_d		500		mW
Thermal resistance junction to ambient	$R_{\theta JA}$		200		K/W
Operating junction temperature range	T_J		-55 to +125		$^{\circ}\text{C}$
Storage temperature	T_{STG}		-55 to +150		
Non-Repetitive peak reverse voltage	V_{RM}	20	30	40	V

PARAMETER	SYMBOLS	Min.	Max.	Unit	Test conditions	
Reverse breakdown voltage	$V_{(BR)}$	20		V	$I_R=250\mu\text{A}$	MBR0520T1G
		30		V	$I_R=200\mu\text{A}$	MBR0530T1G
		40		V	$I_R=20.0\mu\text{A}$	MBR0540T1G
Reverse voltage leakage current	I_R		75	μA	$V_R=10\text{V}$	MBR0520T1G
			20	μA	$V_R=15\text{V}$	MBR0530T1G
			250	μA	$V_R=20\text{V}$	MBR0520T1G
			10	μA	$V_R=20\text{V}$	MBR0540T1G
			130	μA	$V_R=30\text{V}$	MBR0530T1G
			20	μA	$V_R=40\text{V}$	MBR0540T1G
Forward voltage	V_F		0.33	V	$I_F=0.1\text{A}$	MBR0520T1G
			0.385	V	$I_F=0.5\text{A}$	
			0.375	V	$I_F=0.1\text{A}$	MBR0530T1G
			0.43	V	$I_F=0.5\text{A}$	
Diode capacitance	C_D		0.51	V	$I_F=0.5\text{A}$	MBR0540T1G
			0.62	V	$I_F=1.0\text{A}$	
Diode capacitance	C_D		170	pF	$V_R=0\text{V}, f=1.0\text{MHz}$	

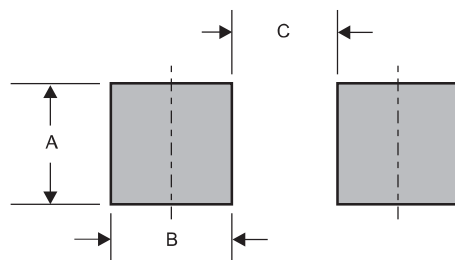
Rating and characteristic curves



Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.048 (1.22)	0.036 (0.91)	0.093 (2.36)