

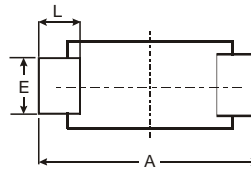
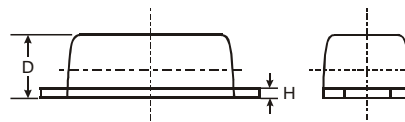
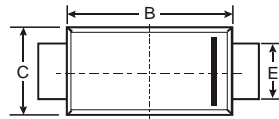
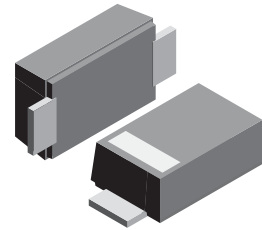
VOLTAGE RANGE: 20 - 40V
CURRENT: 500mA

Features

- Low Forward Voltage Drop
- Guard Ring Construction for
- Transient Protection
- Negligible Reverse Recovery Time
- Low Reverse Capacitance
- Also Available in Lead Free Version

Mechanical Data

- Case: SMAF, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.0018 ounce, 0.064 grams



SMAF			
Dim	Min	Max	Typ
A	4.75	4.85	4.80
B	3.68	3.72	3.70
C	2.57	2.63	2.60
D	0.097	1.03	1.00
E	1.38	1.42	1.40
H	0.13	0.17	0.15
L	0.63	0.67	0.65
All Dimensions in mm			

Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise specified

PARAMETER	SYMBOLS	MBR0520F	MBR0530F	MBR0540F	UNITS
Peak repetitive peak reverse voltage	V_{RRM}				VOLTS
Working peak reverse voltage	V_{RWM}	20	30	40	
DC Blocking voltage	V_R				
RMS Reverse voltage	$V_{R(RMS)}$	14	21	28	V
Average rectified output current	I_o	500			mA
Peak forward surge current	I_{FSM}	5.5			A
Power dissipation	P_d	410			mW
Thermal resistance junction to ambient	$R_{\theta JA}$	244			$^\circ\text{C/W}$
Storage temperature	T_{STG}	-65 to +150			$^\circ\text{C}$
Voltage rate of change	dv/dt	1000			V/ μs

Electrical ratings @ $T_A = 25^\circ\text{C}$

PARAMETER	SYMBOLS	MBR0520	MBR0530	MBR0540	Unit	Conditions
Minimum reverse breakdown voltage	V_{BR}	20			V	$I_R = 250\mu\text{A}$
			30		V	$I_R = 130\mu\text{A}$
				40	V	$I_R = 20\mu\text{A}$
Forward voltage	V_{F1}	0.34	0.375		V	$I_F = 0.1\text{A}$
	V_{F2}	0.43	0.430	0.510	V	$I_F = 0.5\text{A}$
	V_{F3}			0.62	V	$I_F = 1.0\text{A}$
Reverse current	I_{R1}	75			μA	$V_R = 10\text{V}$
	I_{R2}		20		μA	$V_R = 15\text{V}$
	I_{R3}	250		10	μA	$V_R = 20\text{V}$
	I_{R4}		130		μA	$V_R = 30\text{V}$
	I_{R5}			20	μA	$V_R = 40\text{V}$
Capacitance between terminals	C_T			170	pF	$V_R = 1\text{V}, f = 1.0\text{MHz}$
Reverse recovery time	t_{rr}			4	ns	$I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

RATINGS AND CHARACTERISTIC CURVES MBR0520F THRU MBR0540F

FIG. 1- FORWARD CURRENT DERATING CVRVE

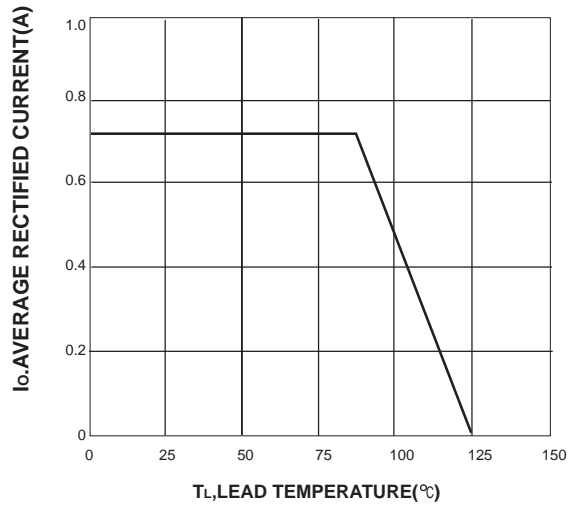


FIG. 2-TYPICAL FORWARD CHARACTERISTIC

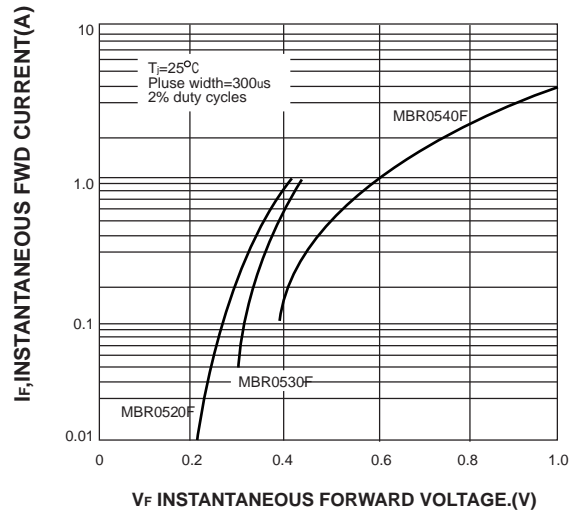


FIG. 3-TYP. JUNCTION CAPACITANCE VS REVERSE VOLTAGE

