

ELECTRICAL SPECIFICATIONS						
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS	
Maximum forward voltage drop See fig. 1	$V_{FM}^{(1)}$	1 A	$T_J = 25\text{ }^{\circ}\text{C}$	0.55	V	
		2 A		0.71		
		1 A	$T_J = 100\text{ }^{\circ}\text{C}$	0.5		
		2 A		0.65		
		1 A	$T_J = 125\text{ }^{\circ}\text{C}$	0.49		
		2 A		0.63		
Maximum reverse leakage current See fig. 2	$I_{RM}^{(1)}$	$T_J = 25\text{ }^{\circ}\text{C}$	$V_R = \text{Rated } V_R$	0.5	mA	
		$T_J = 100\text{ }^{\circ}\text{C}$		10		
		$T_J = 125\text{ }^{\circ}\text{C}$		26		
Threshold voltage	$V_{F(TO)}$	$T_J = T_J \text{ maximum}$		0.36	V	
Forward slope resistance	r_t			104	mΩ	
Typical junction capacitance	C_T	$V_R = 10\text{ V}_{DC}$, $T_J = 25\text{ }^{\circ}\text{C}$, test signal = 1 MHz		38	pF	
Typical series inductance	L_S	Measured lead to lead 5 mm from package body		2.0	nH	
Maximum voltage rate of change	dV/dt	Rated V_R		10 000	V/μs	

Note(1) Pulse width < 300 μ s, duty cycle < 2 %

THERMAL - MECHANICAL SPECIFICATIONS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum junction and storage temperature range	$T_J^{(1)}, T_{Stg}$		- 55 to 150	$^{\circ}\text{C}$
Maximum thermal resistance, junction to lead	$R_{thJL}^{(2)}$	DC operation See fig. 4	35	$^{\circ}\text{C/W}$
Maximum thermal resistance, junction to ambient	R_{thJA}		80	
Approximate weight			0.07	g
			0.002	oz.
Device marking		Case style SMA (similar D-64)	V14	

Notes(1) $\frac{dP_{tot}}{dT_J} < \frac{1}{R_{thJA}}$ thermal runaway condition for a diode on its own heatsink

(2) Mounted 1" square PCB, thermal probe connected to lead 2 mm from package

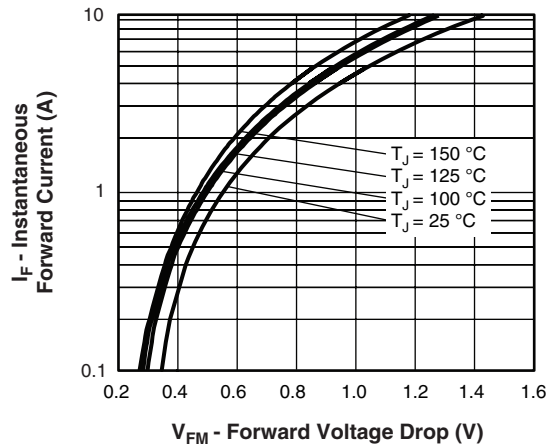


Fig. 1 - Maximum Forward Voltage Drop Characteristics

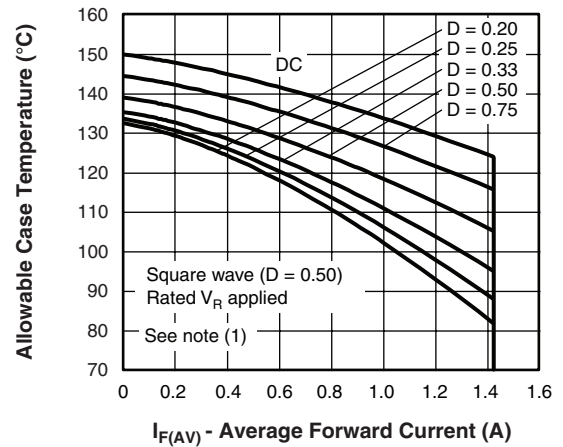


Fig. 4 - Maximum Average Forward Current vs. Allowable Lead Temperature

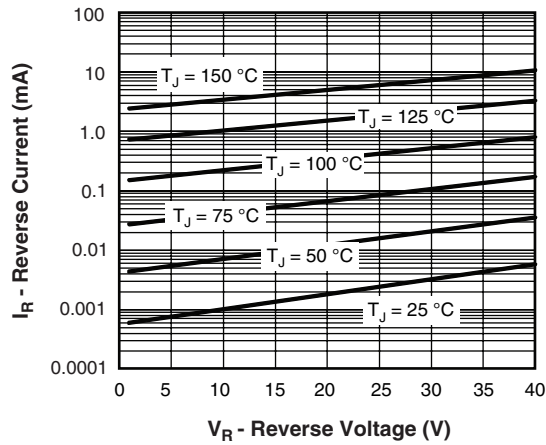


Fig. 2 - Typical Peak Reverse Current vs. Reverse Voltage

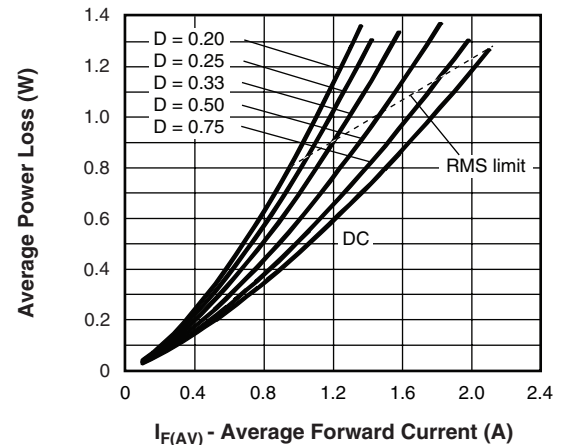


Fig. 5 - Maximum Average Forward Dissipation vs. Average Forward Current

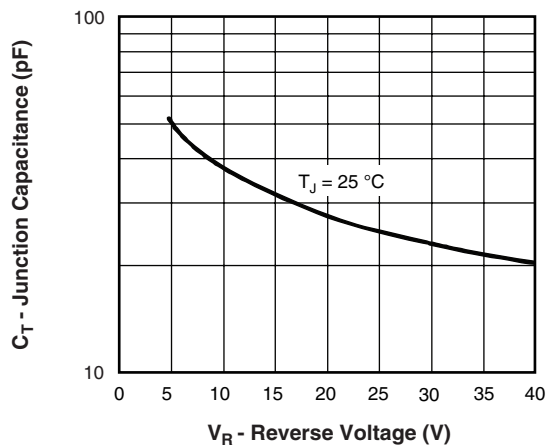


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage

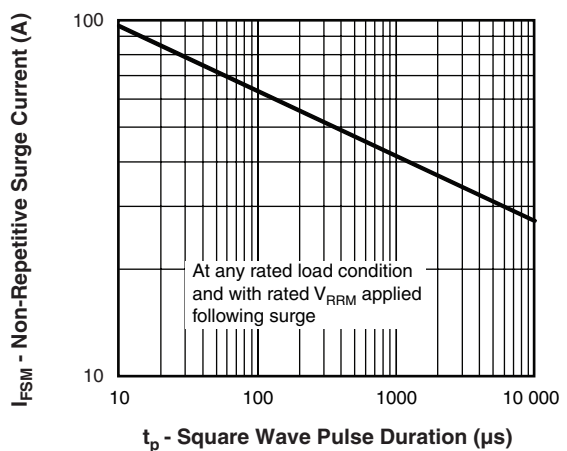


Fig. 6 - Maximum Peak Surge Forward Current vs. Pulse Duration

Note

(1) Formula used: $T_C = T_J - (P_d + P_{d_{REV}}) \times R_{thJC}$;

P_d = Forward power loss = $I_{F(AV)} \times V_{FM}$ at $(I_{F(AV)}/D)$ (see fig. 6); $P_{d_{REV}}$ = Inverse power loss = $V_{R1} \times I_R (1 - D)$; I_R at $V_{R1} = 80\%$ rated V_R

MBRA140TRPbF

Vishay High Power Products Schottky Rectifier, 1.0 A



ORDERING INFORMATION TABLE

Device code	MBR	A	1	40	TR	PbF
	1	2	3	4	5	6
1	- Schottky MBR series					
2	- A = SMA					
3	- Current rating (1 = 1 A)					
4	- Voltage rating (40 = 40 V)					
5	- TR = Tape and reel (7500 pieces)					
6	- PbF = Lead (Pb)-free					

LINKS TO RELATED DOCUMENTS	
Dimensions	www.vishay.com/doc?95018
Part marking information	www.vishay.com/doc?95029
Packaging information	www.vishay.com/doc?95034



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