



ELECTRICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum forward voltage drop See fig. 1	$V_{FM}^{(1)}$	1 A	$T_J = 25\text{ }^{\circ}\text{C}$	0.53	V
		2 A		0.70	
		1 A	$T_J = 125\text{ }^{\circ}\text{C}$	0.49	
		2 A		0.64	
Maximum reverse leakage current See fig. 2	$I_{RM}^{(1)}$	$T_J = 25\text{ }^{\circ}\text{C}$	$V_R = \text{Rated } V_R$	0.1	mA
		$T_J = 125\text{ }^{\circ}\text{C}$		4	
Typical junction capacitance	C_T	$V_R = 5\text{ }V_{DC}$, (test signal range 100 kHz to 1 MHz), $25\text{ }^{\circ}\text{C}$		80	pF
Typical series inductance	L_S	Measured lead to lead 5 mm from package body		2.0	nH
Maximum voltage rate of charge	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	°C
Maximum thermal resistance, junction to lead	R _{thJL} ⁽²⁾	DC operation	36	°C/W
Maximum thermal resistance, junction to ambient	R _{thJA}		80	
Approximate weight			0.10	g
			0.003	oz.
Marking device		Case style SMB (similar DO-214AA)	1F	

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

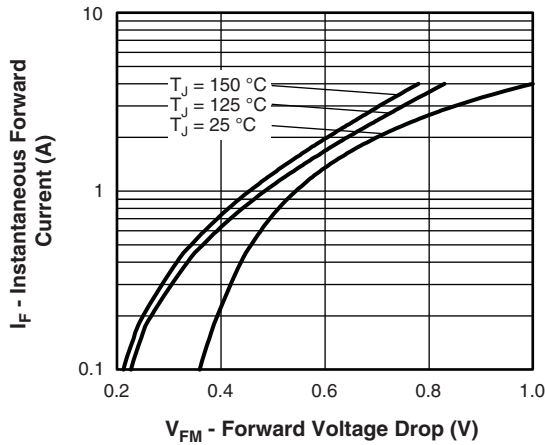


Fig. 1 - Maximum Forward Voltage Drop Characteristics

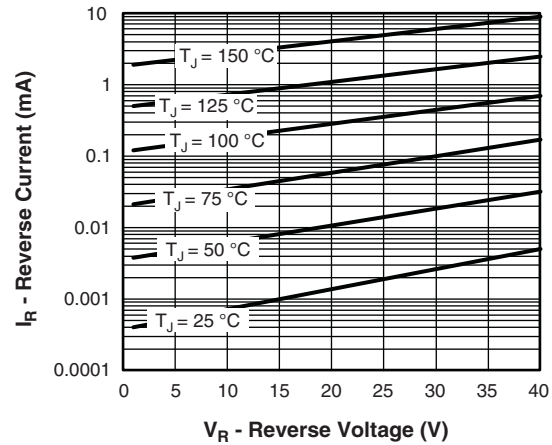


Fig. 2 - Typical Reverse Current vs. Reverse Voltage

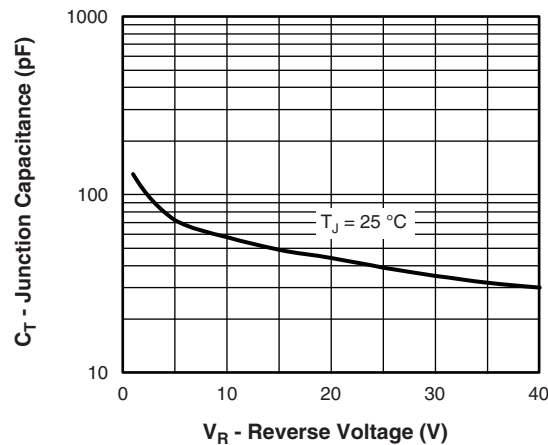


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage

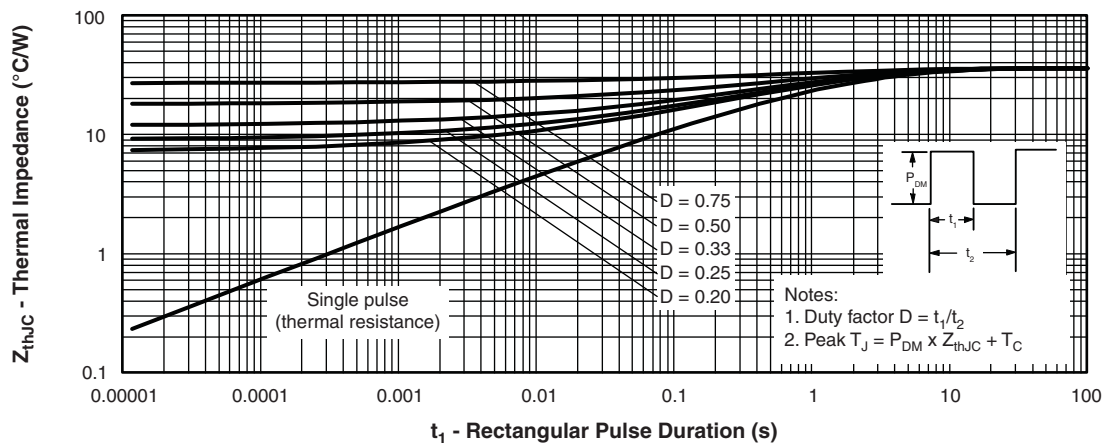


Fig. 4 - Maximum Thermal Impedance Z_{thJC} Characteristics (Per Leg)

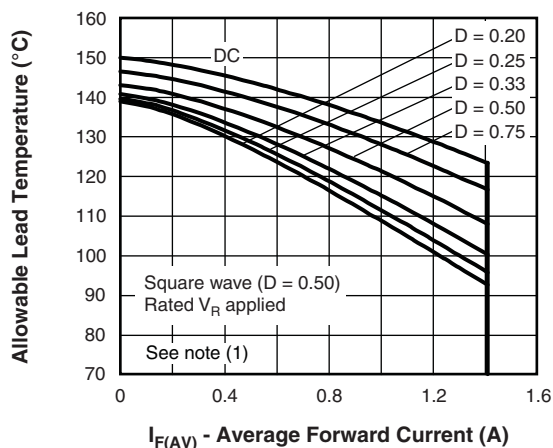


Fig. 5 - Maximum Average Forward Current vs. Allowable Lead Temperature

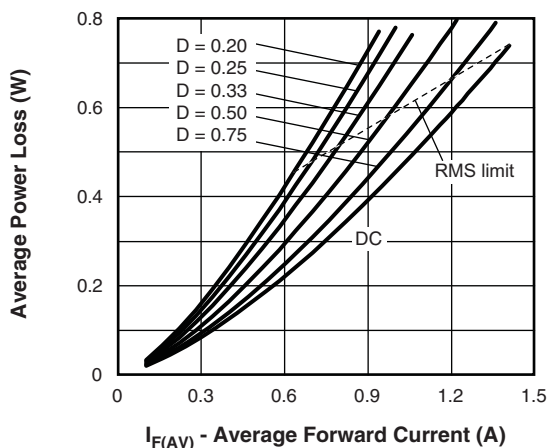


Fig. 6 - Maximum Average Forward Dissipation vs. Average Forward Current

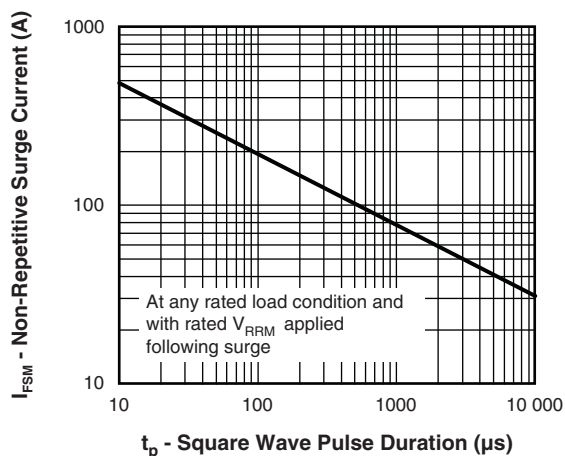


Fig. 7 - Maximum Peak Surge Forward Current vs. Pulse Duration

Note

- (1) Formula used: $T_C = T_J - (P_d + P_{dREV}) \times R_{thJC}$;
 P_d = Forward power loss = $I_{F(AV)} \times V_{FM}$ at $(I_{F(AV)}/D)$ (see fig. 6);
 P_{dREV} = Inverse power loss = $V_{R1} \times I_R (1 - D)$; I_R at $V_{R1} = 80\%$ rated V_R



ORDERING INFORMATION TABLE

Device code	VS-	10	B	Q	040	TR	PbF
	1	2	3	4	5	6	7
1	- Vishay Semiconductors product						
2	- Current rating						
3	- B = single lead diode						
4	- Q = Schottky "Q" series						
5	- Voltage rating (040 = 40 V)						
6	- TR = tape and reel						
7	- PbF = lead (Pb)-free						

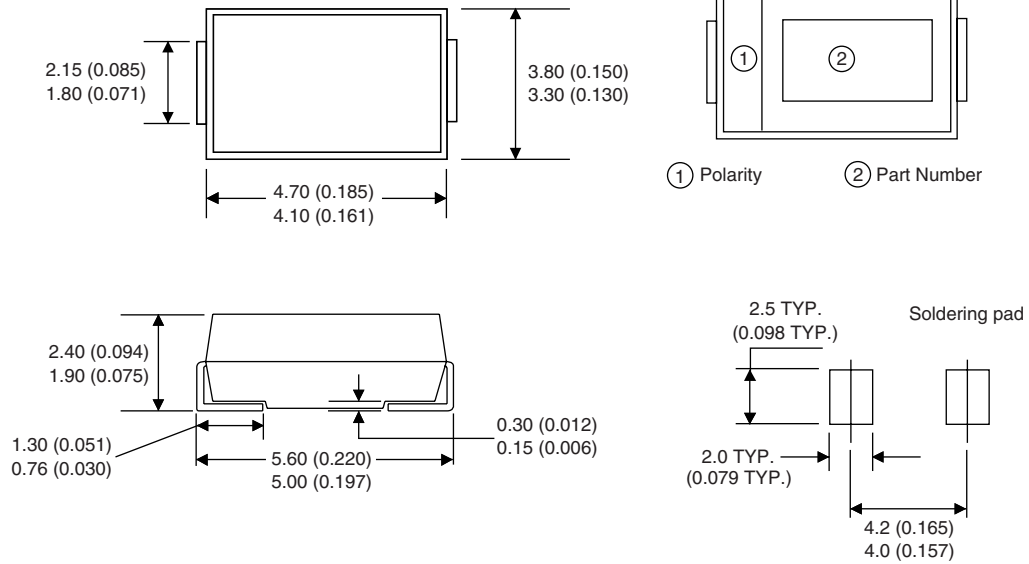
ORDERING INFORMATION (Example)			
PREFERRED P/N	PREFERRED PACKAGE CODE	MINIMUM ORDER QUANTITY	PACKAGING DESCRIPTION
VS-10BQ040TRPbF	5BT	3200	13" diameter plastic tape and reel

LINKS TO RELATED DOCUMENTS	
Dimensions	www.vishay.com/doc?95401
Part marking information	www.vishay.com/doc?95403
Packaging information	www.vishay.com/doc?95404
SPIICE model	www.vishay.com/doc?95406



SMB

DIMENSIONS in millimeters (inches)





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