

ELECTRICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum forward voltage drop See fig. 1	$V_{FM}^{(1)}$	5 A	$T_J = 25\text{ }^{\circ}\text{C}$	0.51	V
		10 A		0.63	
		5 A	$T_J = 125\text{ }^{\circ}\text{C}$	0.44	
		10 A		0.59	
Maximum reverse leakage current See fig. 2	$I_{RM}^{(1)}$	$T_J = 25\text{ }^{\circ}\text{C}$	$V_R = \text{Rated } V_R$	3	mA
		$T_J = 125\text{ }^{\circ}\text{C}$		40	
Thereshold voltage	$V_{F(TO)}$	$T_J = T_J \text{ maximum}$		0.27	V
Forward slope resistance	r_t			26.77	mΩ
Typical junction capacitance	C_T	$V_R = 5\text{ V}_{DC}$ (test signal range 100 kHz to 1 MHz) 25 °C		405	pF
Typical series inductance	L_S	Measured lead to lead 5 mm from package body		5.0	nH

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

THERMAL - MECHANICAL SPECIFICATIONS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum junction and storage temperature range	$T_J^{(1)}, T_{Stg}$		- 40 to 150	$^{\circ}\text{C}$
Maximum thermal resistance, junction to case	R_{thJC}	DC operation See fig. 4	3.0	$^{\circ}\text{C}/\text{W}$
Approximate weight			0.3	g
			0.01	oz.
Marking device		Case style D-PAK (similar to TO-252AA)	50WQ04FN	

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

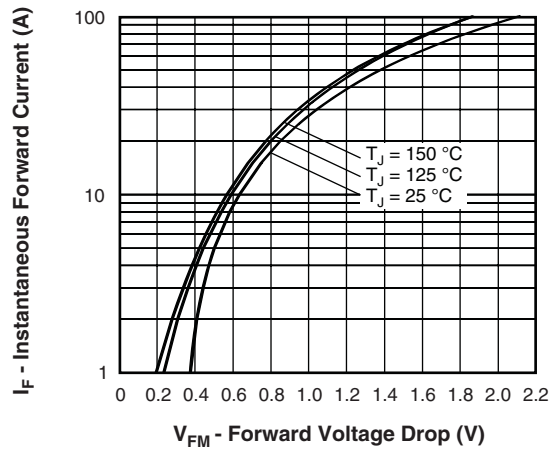


Fig. 1 - Maximum Forward Voltage Drop Characteristics

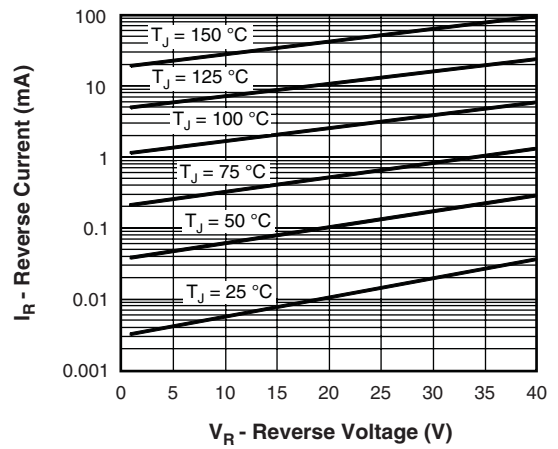


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage

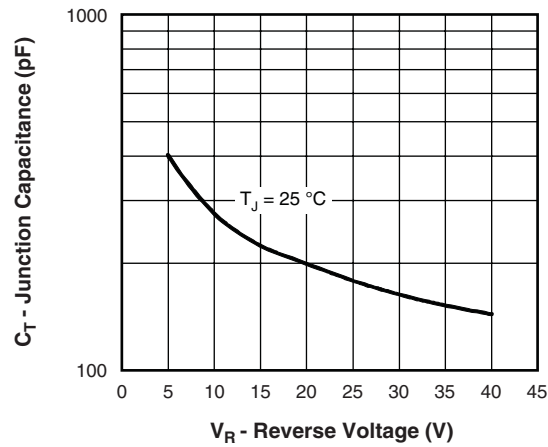


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage

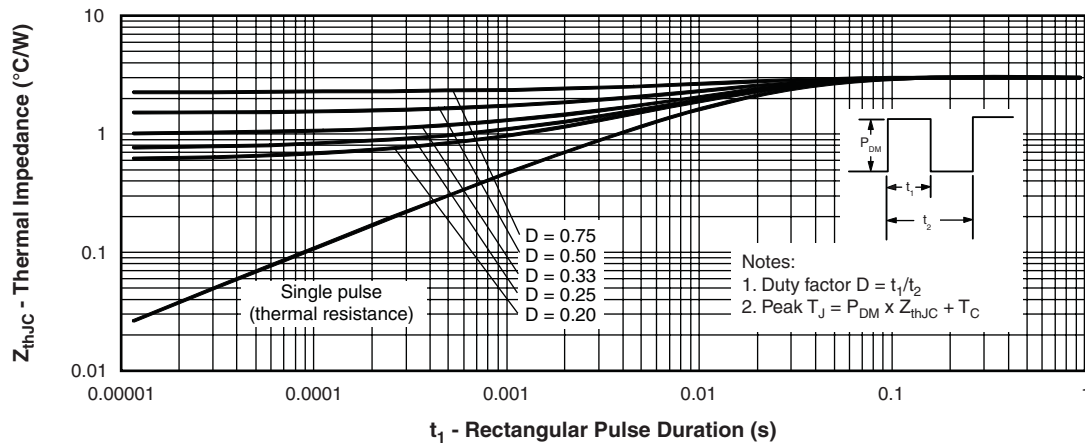


Fig. 4 - Maximum Thermal Impedance Z_{thJC} Characteristics

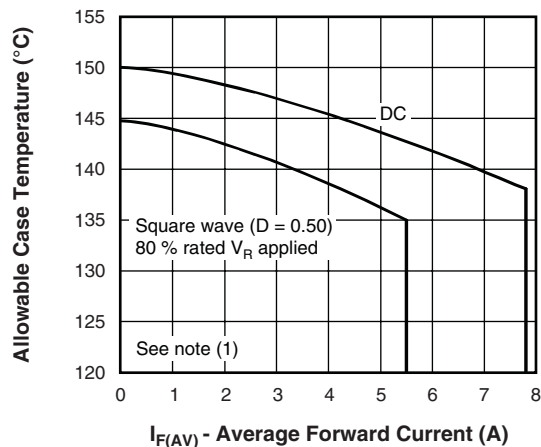


Fig. 5 - Maximum Allowable Case Temperature vs. Average Forward Current

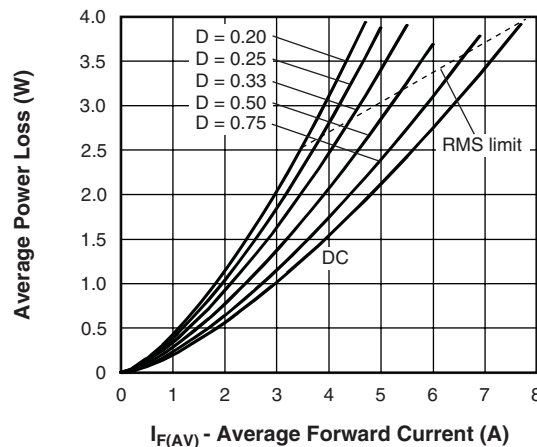


Fig. 6 - Forward Power Loss Characteristics

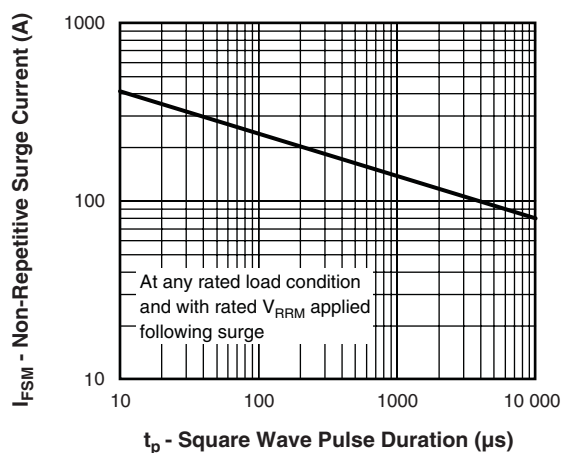


Fig. 7 - Maximum Non-Repetitive Surge Current

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



ORDERING INFORMATION TABLE

Device code	50	W	Q	04	FN	TRL	PbF
	1	2	3	4	5	6	7
	1	-	Current rating (5.5 A)				
	2	-	Package identifier:				
			W = D-PAK				
	3	-	Schottky "Q" series				
	4	-	Voltage rating (04 = 40 V)				
	5	-	FN = TO-252AA				
	6	-	<ul style="list-style-type: none">• None = Tube (50 pieces)• TR = Tape and reel• TRL = Tape and reel (left oriented)• TRR = Tape and reel (right oriented)				
	7	-	<ul style="list-style-type: none">• None = Standard production• PbF = Lead (Pb)-free				

LINKS TO RELATED DOCUMENTS	
Dimensions	http://www.vishay.com/doc?95016
Part marking information	http://www.vishay.com/doc?95059
Packaging information	http://www.vishay.com/doc?95033



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