

DYNAMIC RECOVERY CHARACTERISTICS ($T_J = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Reverse recovery time	t_{rr}	$I_F = 1.0\text{ A}$, $dI_F/dt = 50\text{ A}/\mu\text{s}$, $V_R = 30\text{ V}$	-	-	35	ns
		$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{REC} = 0.25\text{ A}$	-	-	25	
		$T_J = 25\text{ }^{\circ}\text{C}$	-	24	-	
		$T_J = 125\text{ }^{\circ}\text{C}$	-	35	-	
Peak recovery current	I_{RRM}	$T_J = 25\text{ }^{\circ}\text{C}$	-	3.3	-	A
		$T_J = 125\text{ }^{\circ}\text{C}$	-	5.0	-	
Reverse recovery charge	Q_{rr}	$T_J = 25\text{ }^{\circ}\text{C}$	-	33	-	nC
		$T_J = 125\text{ }^{\circ}\text{C}$	-	76	-	

THERMAL - MECHANICAL SPECIFICATIONS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Maximum junction and storage temperature range	T_J, T_{Stg}		- 65	-	175	$^{\circ}\text{C}$
Thermal resistance, junction to case per leg	R_{thJC}		-	-	5	$^{\circ}\text{C}/\text{W}$
Thermal resistance, junction to ambient per leg	R_{thJA}		-	-	50	
Thermal resistance, case to heatsink	R_{thCS}	Mounting surface, flat, smooth and greased	-	0.5	-	
Weight			-	2.0	-	g
			-	0.07	-	oz.
Mounting torque			6.0 (5.0)	-	12 (10)	kgf · cm (lbf · in)
Marking device		Case style TO-220AB	MUR1020CT			

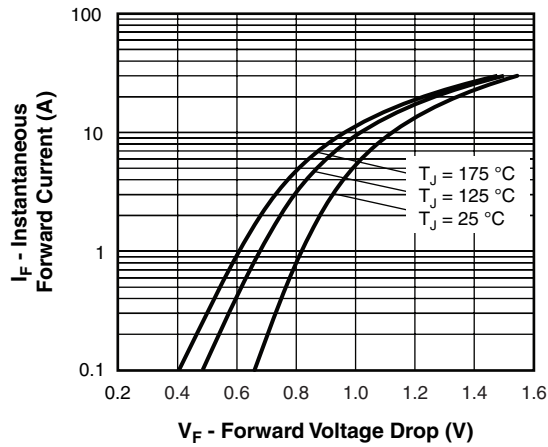


Fig. 1 - Typical Forward Voltage Drop Characteristics

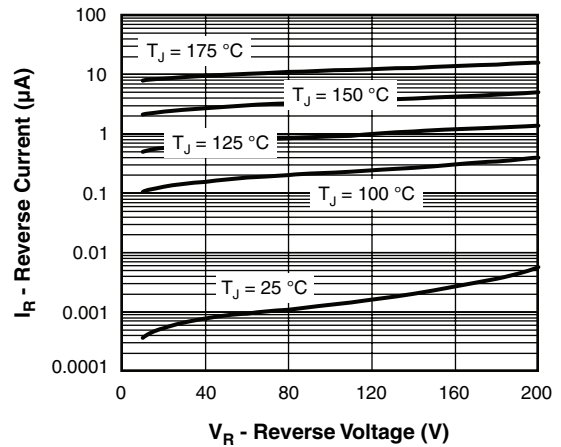


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage

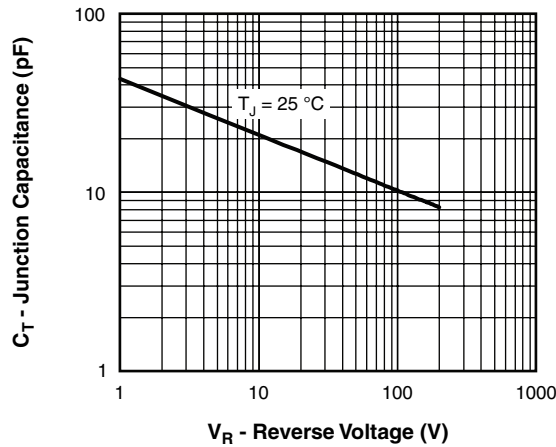


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage

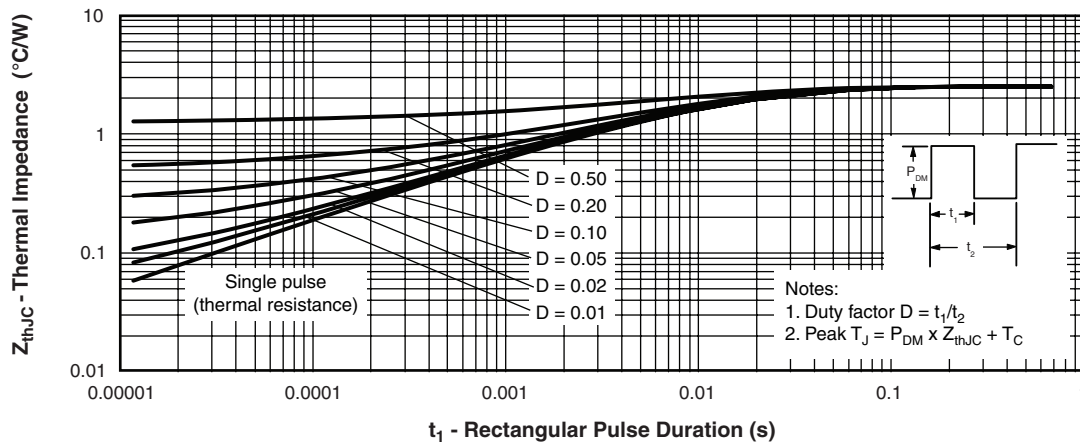


Fig. 4 - Maximum Thermal Impedance Z_{thJC} Characteristics

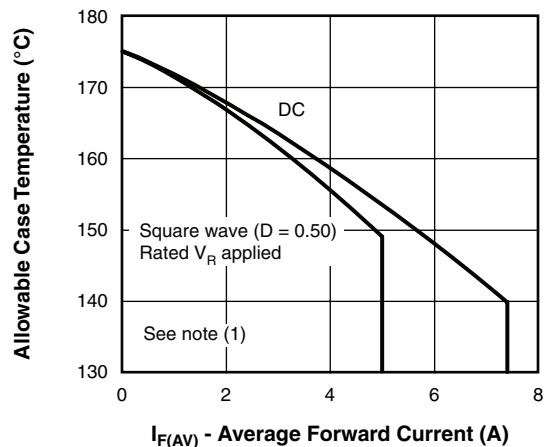


Fig. 5 - Maximum Allowable Case Temperature vs. Average Forward Current

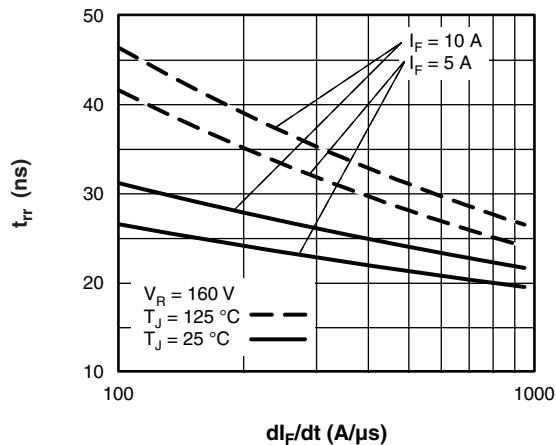


Fig. 7 - Typical Reverse Recovery Time vs. dI_F/dt

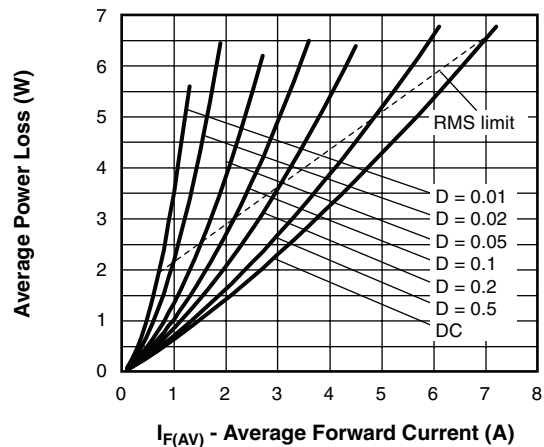


Fig. 6 - Forward Power Loss Characteristics

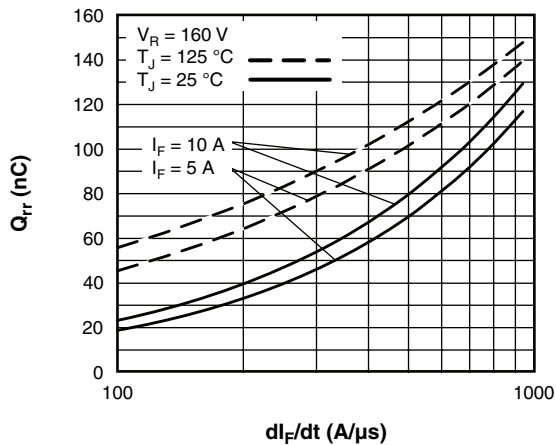


Fig. 8 - Typical Stored Charge vs. dI_F/dt

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} = Rated V_R

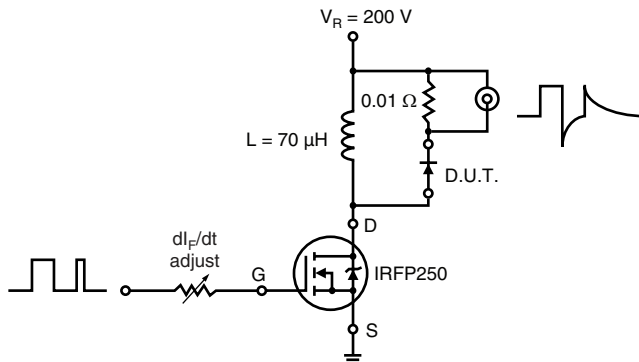


Fig. 9 - Reverse Recovery Parameter Test Circuit

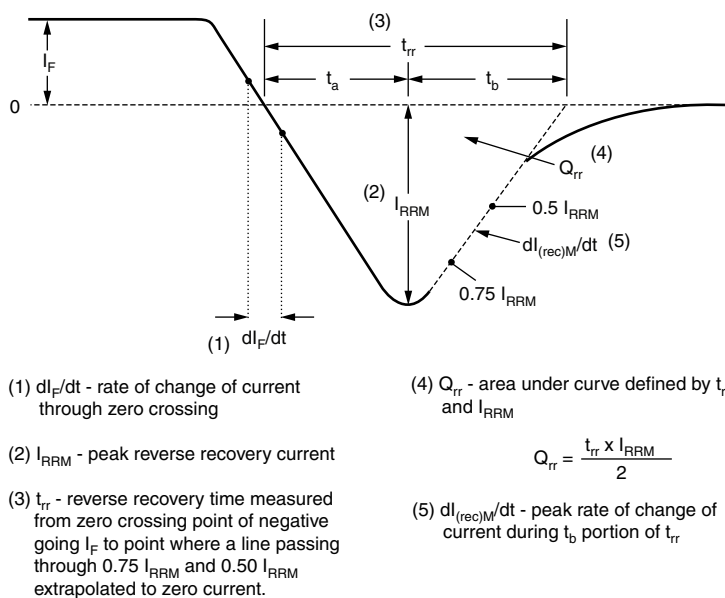


Fig. 10 - Reverse Recovery Waveform and Definitions

MUR1020CTPbF

Vishay High Power Products

Ultrafast Rectifier,
10 A FRED Pt®



ORDERING INFORMATION TABLE

Device code	MUR	10	20	CT	PbF
	1	2	3	4	5
1	- Ultrafast MUR series				
2	- Current rating (10 = 10 A)				
3	- Voltage rating (20 = 200 V)				
4	- CT = Center tap (dual) TO-220/D ² PAK/TO-262				
5	- • None = Standard production • PbF = Lead (Pb)-free				

Tube standard pack quantity: 50 pieces

LINKS TO RELATED DOCUMENTS	
Dimensions	www.vishay.com/doc?95222
Part marking information	www.vishay.com/doc?95225



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