



MER1002CT

Super Fast Recovery Rectifier

Voltage 200 V **Current** 10 A

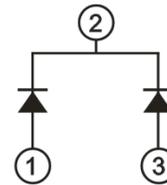
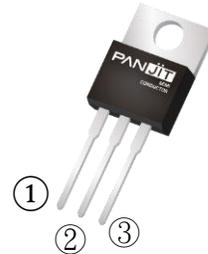
Features

- Superfast recovery times-epitaxial construction
- Low forward voltage, high current capability
- Low leakage
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : TO-220AB Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 1.8904 grams

TO-220AB



Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage		V _{RRM}	200	V
Maximum RMS Voltage		V _{RMS}	140	V
Maximum DC Blocking Voltage		V _{DC}	200	V
Maximum Average Forward Current	per device	I _{F(AV)}	10	A
	per diode		5	
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load Per Diode		I _{FSM}	100	A
Typical Junction Capacitance Measured at 1 MHz And Applied V _R = 4 V		C _J	51	pF
Typical Thermal Resistance	(Note 1)	R _{θJC}	2	°C/W
	(Note 1)	R _{θJL}	2.5	
Operating Junction Temperature Range		T _J	-55~175	°C
Storage Temperature Range		T _{STG}	-55~175	°C



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Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage Per Diode	V_F	$I_F = 1\text{ A}, T_J = 25^\circ\text{C}$	-	0.76	-	V
		$I_F = 3\text{ A}, T_J = 25^\circ\text{C}$	-	0.85	-	V
		$I_F = 5\text{ A}, T_J = 25^\circ\text{C}$	-	-	0.95	V
		$I_F = 1\text{ A}, T_J = 125^\circ\text{C}$	-	0.61	-	V
		$I_F = 3\text{ A}, T_J = 125^\circ\text{C}$	-	0.72	-	V
		$I_F = 5\text{ A}, T_J = 125^\circ\text{C}$	-	0.79	-	V
Reverse Current Per Diode	I_R	$V_R = 160\text{ V}, T_J = 25^\circ\text{C}$	-	0.004	-	uA
		$V_R = 200\text{ V}, T_J = 25^\circ\text{C}$	-	-	1	
		$V_R = 200\text{ V}, T_J = 125^\circ\text{C}$	-	-	60	
Reverse Recovery Time	T_{RR}	$I_F = 0.5\text{ A}, I_R = 1\text{ A},$ $I_{RR} = 0.25\text{ A}, T_J = 25^\circ\text{C}$	-	-	35	ns
Reverse Recovery Time	T_{RR}	$I_F = 5\text{ A}, V_R = 200\text{ V}$ $di/dt = 300\text{ A/uS}$	-	25	-	ns
Peak Recovery Current	I_{RRM}		-	5.7	-	A
Reverse Recovery Charge	Q_{RR}	$T_J = 25^\circ\text{C}$	-	74	-	nC
Reverse Recovery Time	T_{RR}	$I_F = 5\text{ A}, V_R = 200\text{ V}$ $di/dt = 300\text{ A/uS}$	-	37	-	ns
Peak Recovery Current	I_{RRM}		-	8.7	-	A
Reverse Recovery Charge	Q_{RR}		$T_J = 125^\circ\text{C}$	-	162	-

NOTES :

1. Device mounted on a infinite heatsink.



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TYPICAL CHARACTERISTIC CURVES

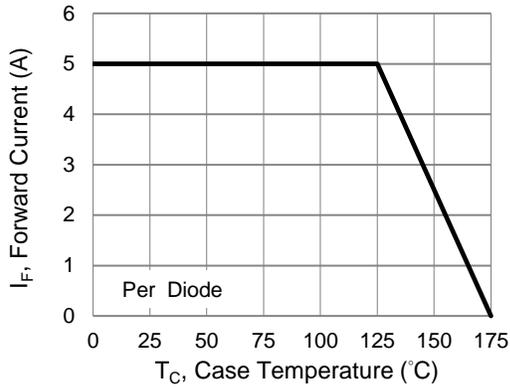


Fig.1 Forward Current Derating Curve

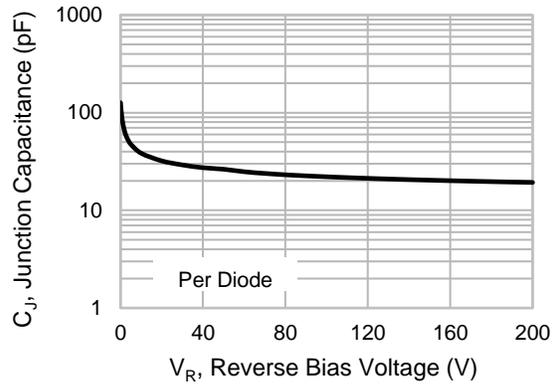


Fig.2 Typical Junction Capacitance

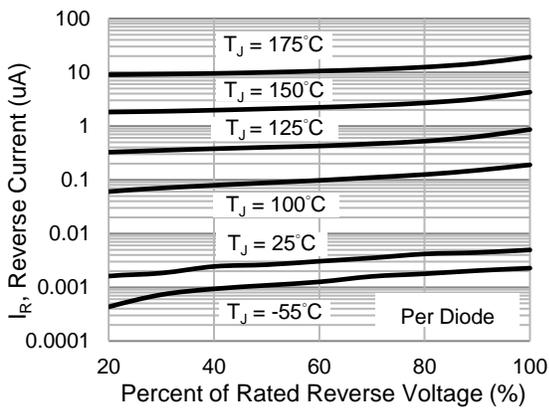


Fig.3 Typical Reverse Characteristics

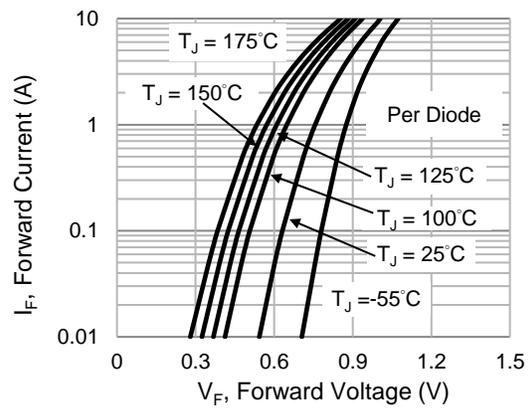


Fig.4 Typical Forward Characteristics

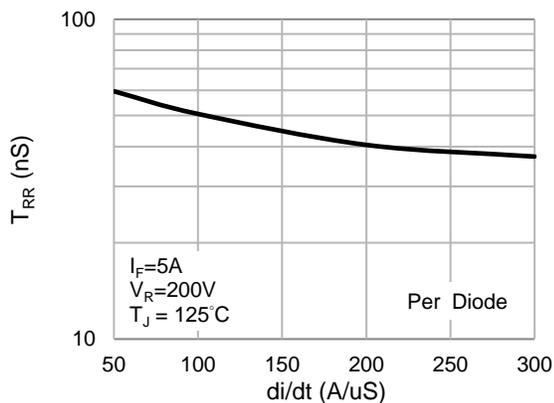


Fig. 5 Typical Reverse Recovery Time Versus di/dt

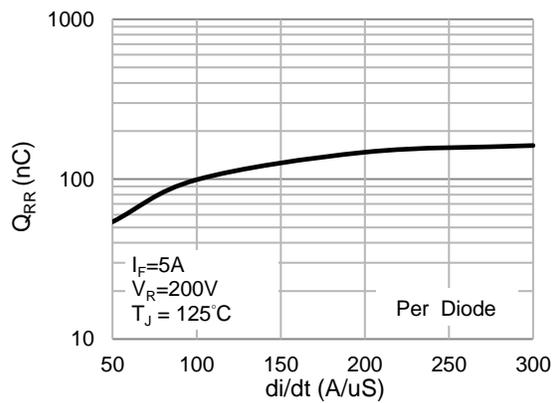


Fig. 6 Typical Reverse Recovery Charge Versus di/dt

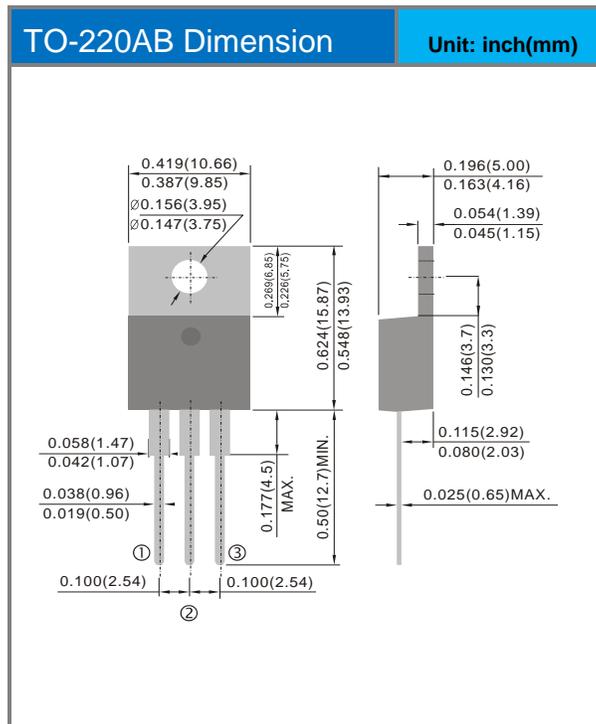


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Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
MER1002CT_T0_00601	TO-220AB	50pcs / Tube	MER1002CT	Halogen free RoHS compliant

Packaging Information





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