

Technical Data
Data Sheet 3298, Rev. B

MBRF4080CT/MBRF4090CT/MBRF40100CT SCHOTTKY RECTIFIER

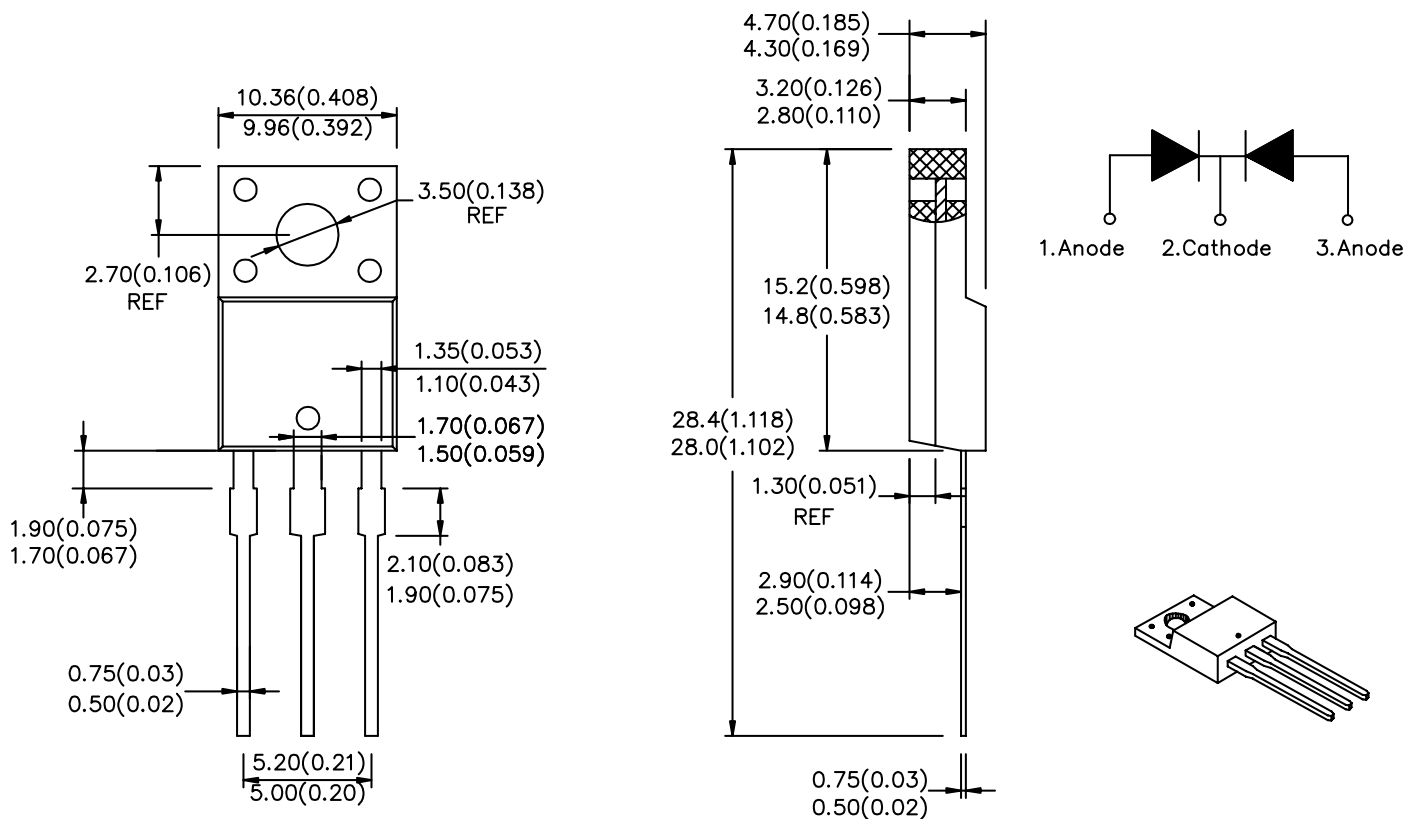
Applications:

- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

Features:

- 150°C T_J operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

Mechanical Dimensions: In Inches / mm



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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	80	V
			90	
			100	
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C = 135^\circ\text{C}$, rectangular wave form	20(Per leg)	A
			40(Per device)	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	280	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)*	V_{F1}	@ 20A, Pulse, $T_J = 25^\circ\text{C}$	0.88	V
		@ 40A, Pulse, $T_J = 25^\circ\text{C}$	1.02	
	V_{F2}	@ 20A, Pulse, $T_J = 125^\circ\text{C}$	0.74	V
		@ 40 A, Pulse, $T_J = 125^\circ\text{C}$	0.88	
Max. Reverse Current (per leg)*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	1.0	mA
		@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	6	
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	400	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μs
RSM Isolation Voltage ($t = 1.0$ second, R. H. $\leq 30\%$, $T_A = 25^\circ\text{C}$)	V_{ISO}	Clip mounting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction.	4500	V
		Clip mounting, the epoxy body is inside the heatsink.	3500	
		Screw mounting, the epoxy body is inside the heatsink.	1500	

* Pulse Width $< 300\mu\text{s}$, Duty Cycle $< 2\%$

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	3.5	$^\circ\text{C/W}$
Approximate Weight	wt	-	2	g
Mounting Torque	T_M	-	6(Min.) 12(Max.)	Kg-cm
Case Style	ITO-220AB			

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