

Technical Data
Data Sheet M2636, Rev.A

MBRF30100CT SCHOTTKY RECTIFIER

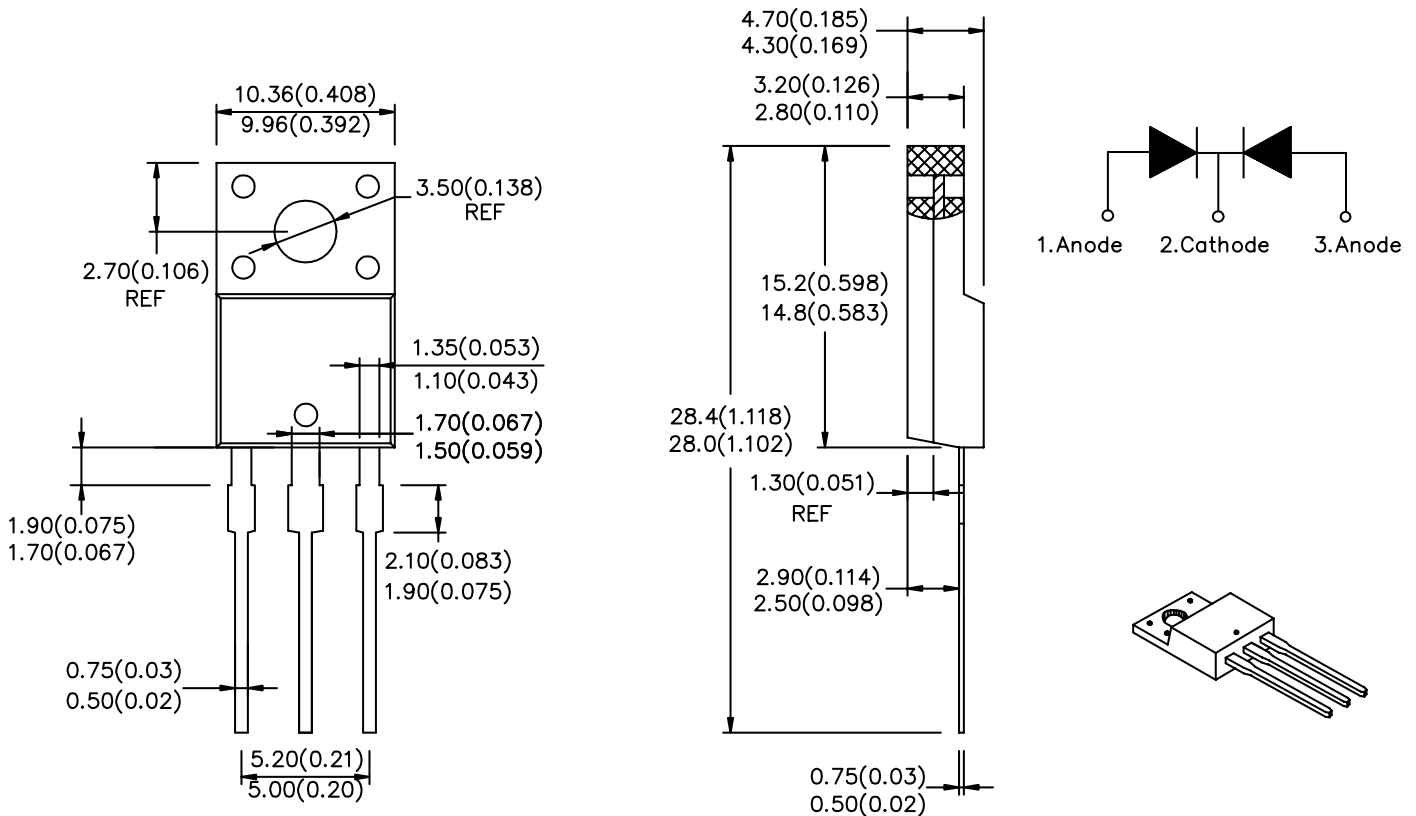
Applications:

- 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



ITO-220AB

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Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	100	V
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C = 133^\circ\text{C}$, rectangular wave form	30	A
Peak Repetitive Forward Current(per leg)	I_{FRM}	Rated V_R square wave, 20KHz $T_C = 133^\circ\text{C}$	20	A
Max. Peak One Cycle Non- Repetitive Surge Current (per leg)	I_{FSM}	Surge applied at rated load conditions halfwave, single phase, 60Hz	150	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 15 A, Pulse, $T_J = 25^\circ\text{C}$	0.85	V
	V_{F2}	@ 30 A, Pulse, $T_J = 25^\circ\text{C}$	1.05	
		@ 15 A, Pulse, $T_J = 125^\circ\text{C}$	0.70	V
		@ 30 A, Pulse, $T_J = 125^\circ\text{C}$	0.85	
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	1.0	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	6.0	mA
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 μs , Duty Cycle < 2%

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Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	°C
Max. Storage Temperature	T_{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	3.0	°C/W
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta JA}$	DC operation	50	°C/W
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.50	°C/W
Approximate Weight	wt	-	2.0	g
Mounting Torque	T_M	-	6(Min.) 12(Max.)	Kg-cm
Case Style	ITO-220AB			

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