

Technical Data  
Data Sheet M2642, Rev. -

## MBRF20100CT SCHOTTKY RECTIFIER

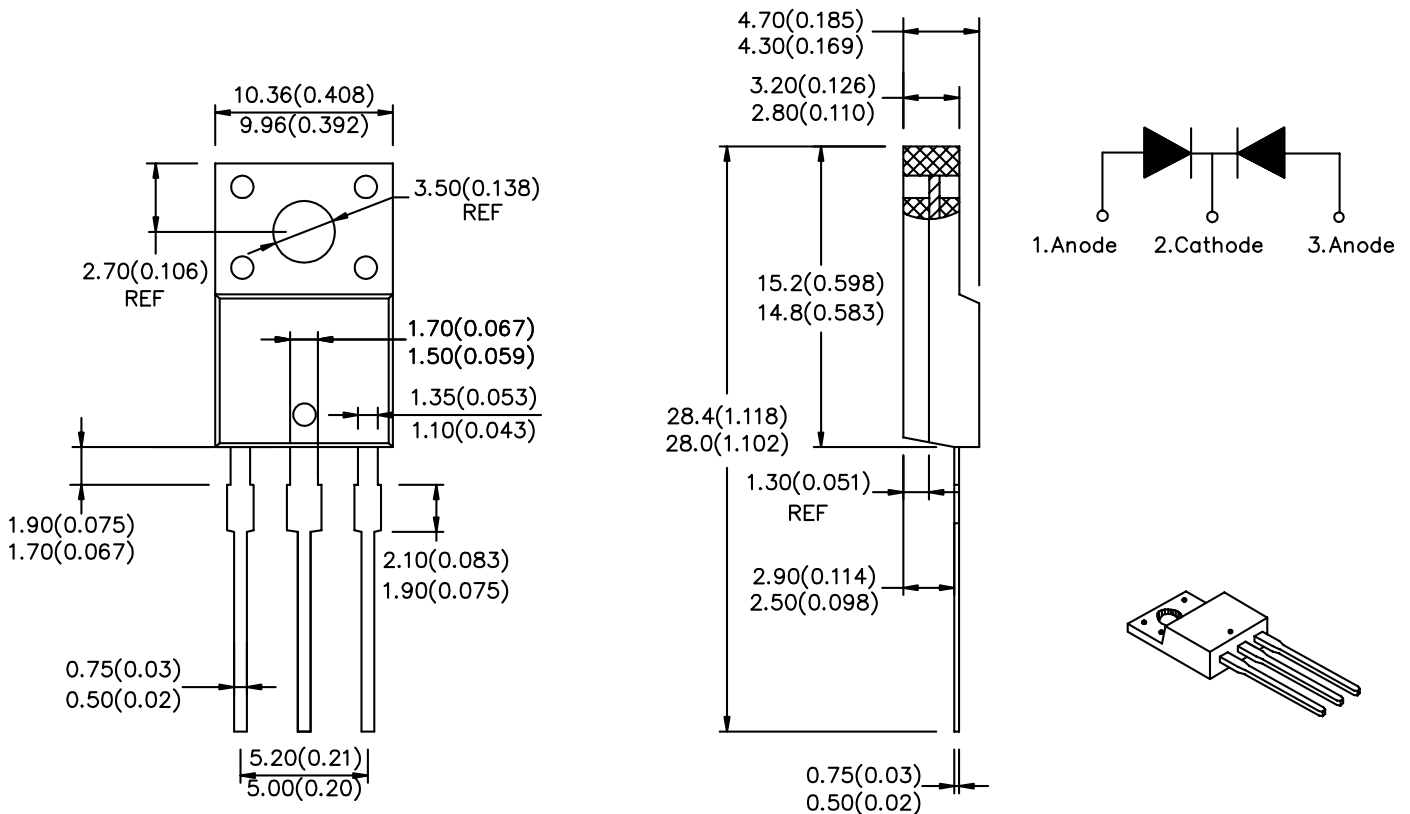
### Applications:

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

### Features:

- 150 °C T<sub>J</sub> 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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**Maximum Ratings:**

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	10(Per leg)	A
			20(Per device)	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	150	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)*	$V_{F1}$	@ 10A, Pulse, $T_J = 25^\circ\text{C}$ @ 20A, Pulse, $T_J = 25^\circ\text{C}$	0.85 0.95	V
	$V_{F2}$	@ 10 A, Pulse, $T_J = 125^\circ\text{C}$ @ 20 A, Pulse, $T_J = 125^\circ\text{C}$	0.75 0.85	V
Max. Reverse Current at DC condition (per leg)	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	1.0	mA
Max. Reverse Current (per leg)*	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	6.0	mA
Max. Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	500	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/ $\mu\text{s}$
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	-	1.9	g
Mounting Torque	$T_M$	-	6(Min.) 12(Max.)	Kg-cm
Case Style	ITO-220AB			

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