

**SCHOTTKY RECTIFIER**

**30 Amp**

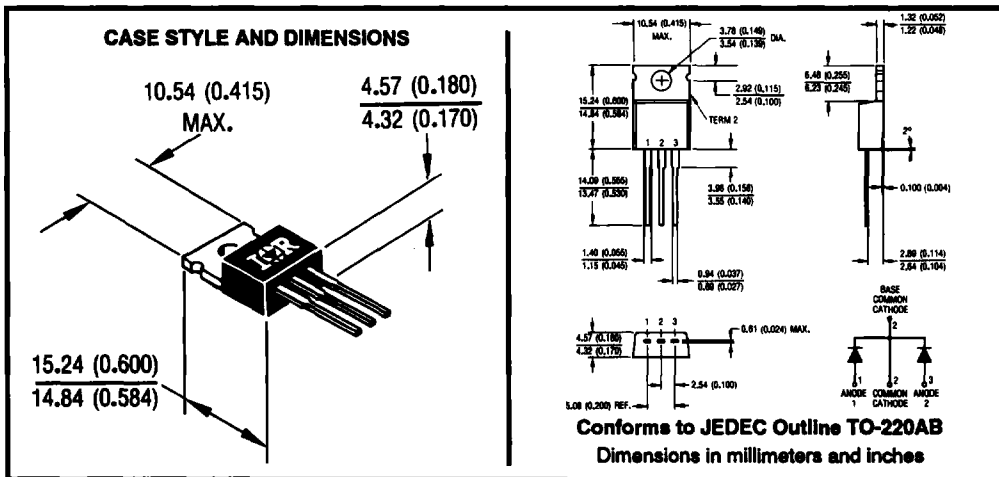
**Major Ratings and Characteristics**

Characteristics	MBR25..CT	Units
$I_{F(AV)}$ Rectangular waveform	30	A
$V_{RRM}$	35/45	V
$I_{FSM}$ @ $t_p=5\mu s$ sine	1060	A
$V_F$ @ 30Apk, $T_J=125^\circ C$	0.73	V
$T_J$	-65 to 150	$^\circ C$

**Description/Features**

The MBR25..CT center tap Schottky rectifier has been optimized for low reverse leakage at high temperature. The proprietary barrier technology allows for reliable operation up to 150° C junction temperature. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.

- 150° C  $T_J$  operation
- Center tap TO-220 package
- 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



FOR OPTIONAL LEADFORM OPTIONS SEE PAGES D-476 & D-477

### Voltage Ratings

Part number	MBR2535CT	MBR2545CT
$V_R$ Max. DC Reverse Voltage (V)	35	45
$V_{RWM}$ Max. Working Peak Reverse Voltage (V)		

### Absolute Maximum Ratings

Parameters	MBR25..CT	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current	30	A	@ $T_C = 130^\circ\text{C}$ , (Rated $V_R$ )
$I_{FSM}$ Max. Peak One Cycle Non Repetitive Surge	1060	A	5 $\mu\text{s}$ Sine or 3 $\mu\text{s}$ Rect. pulse Following any rated load condition and with rated $V_{RRM}$ applied
	150		Surge applied at rated load condition halfwave single phase 60Hz
$I_{RRM}$ Peak Repetitive Reverse Surge Current	1.0	A	2.0 $\mu\text{sec}$ 1.0 KHz

### Electrical Specifications

Parameters	MBR25..CT	Units	Conditions
$V_{FM}$ Max. Forward Voltage Drop (1)	0.82	V	@ 30A $T_J = 25^\circ\text{C}$
	0.73	V	@ 30A $T_J = 125^\circ\text{C}$
$I_{RM}$ Max. Instantaneous Reverse Current (1)	0.2	mA	$T_J = 25^\circ\text{C}$ Rated DC voltage
	40	mA	$T_J = 125^\circ\text{C}$
$C_T$ Max. Junction Capacitance	900	pF	$V_R = 5V_{DC}$ , (test signal range 100Khz to 1Mhz) $25^\circ\text{C}$
$L_S$ Typical Series Inductance	8.0	nH	Measured from top of terminal to mounting plane
$dv/dt$ Max. Voltage Rate of Change (Rated $V_R$ )	1000	V/ $\mu\text{s}$	

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

### Thermal-Mechanical Specifications

Parameters	MBR25..CT	Units	Conditions
$T_J$ Max. Junction Temperature Range	-65 to 150	$^\circ\text{C}$	
$T_{stg}$ Max. Storage Temperature Range	-65 to 175	$^\circ\text{C}$	
$R_{thJC}$ Max. Thermal Resistance Junction to Case	1.50	$^\circ\text{C}/\text{W}$	DC operation
$R_{thCS}$ Typical Thermal Resistance, Case to Heatsink	0.50	$^\circ\text{C}/\text{W}$	Mounting surface, smooth and greased
wt Approximate Weight	2 (0.07)	g (oz.)	
T Mounting Torque	Min. 6 (5)	Kg-cm (lbf-in)	
	Max. 12 (10)		
Case Style	TO-220AB		JEDEC

\* For Additional Informations and Graphs, Please See the 30CTQ Series