

SCHOTTKY RECTIFIER

30 Amp

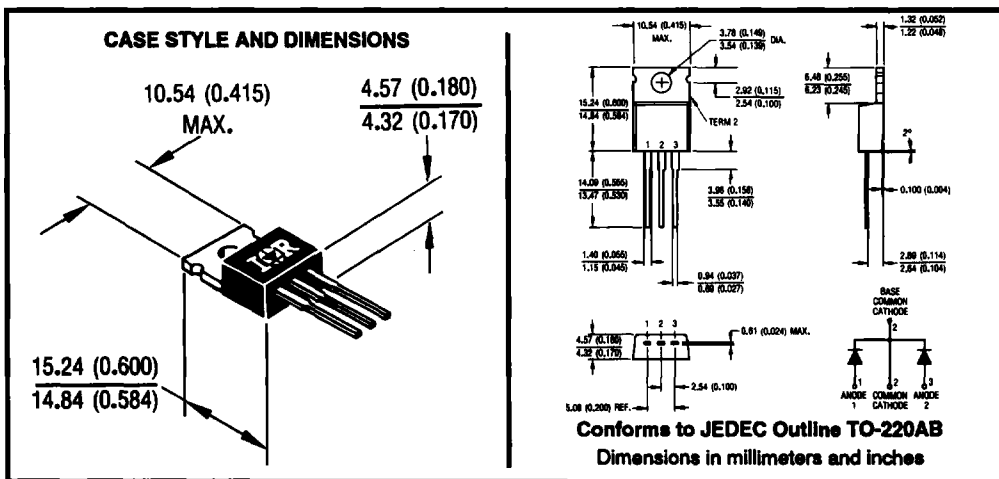
Major Ratings and Characteristics

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 @ 30 Apk, $T_J=125^\circ C$	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 μs Sine or 3 μs 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 μsec 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°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/ μs	

(1) Pulse Width < 300 μs , 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	$^\circ\text{C}$	
$R_{\theta JC}$ Max. Thermal Resistance Junction to Case	1.50	$^\circ\text{C}/\text{W}$	DC operation
$R_{\theta CS}$ 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