

Technical Data
Data Sheet 2909, Rev. A

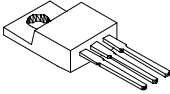
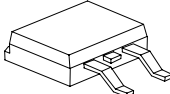
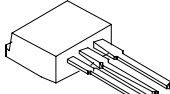
MBR20..CT/ MBRB20..CT/ MBR20..CT-1
SCHOTTKY RECTIFIER

Applications:

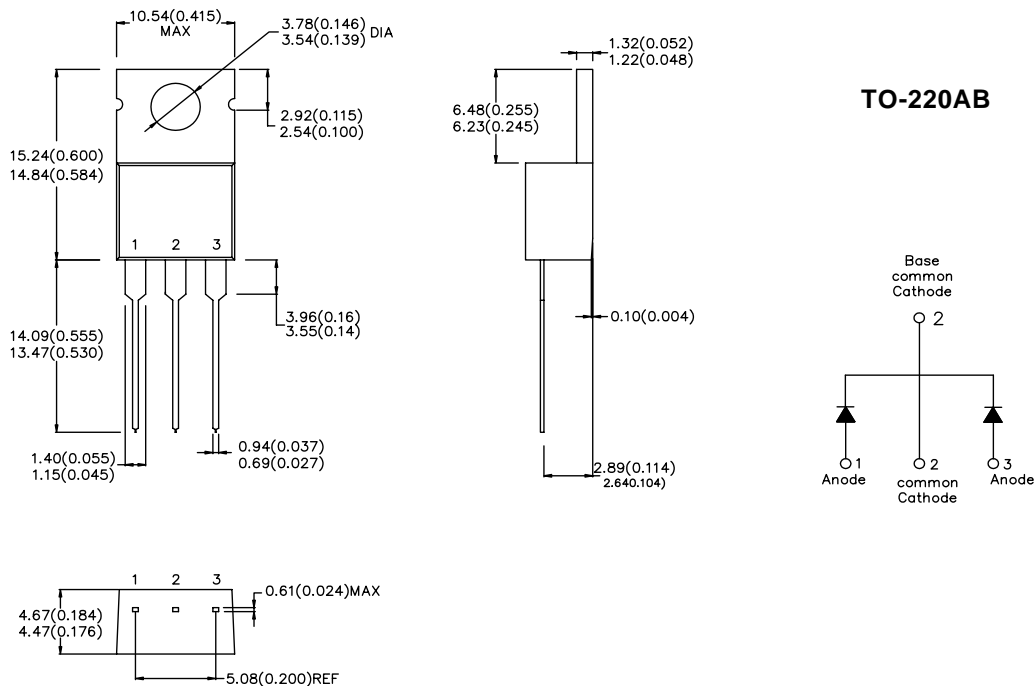
- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

Features:

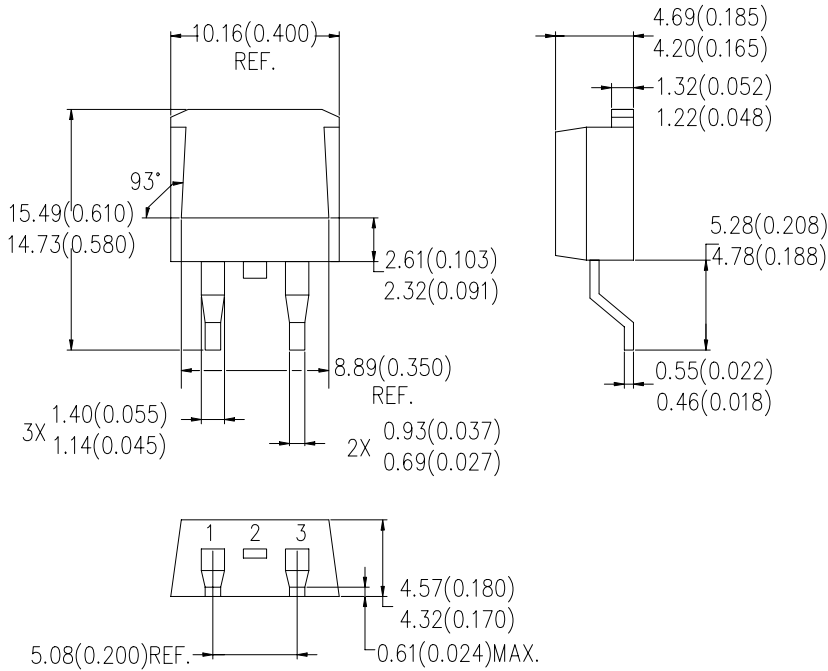
- 150 °C T_J operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

Case styles		
MBR2035CT MBR2045CT	MBRB2035CT MBRB2045CT	MBR2035CT-1 MBR2045CT-1
		
TO-220AB	D²PAK	TO-262

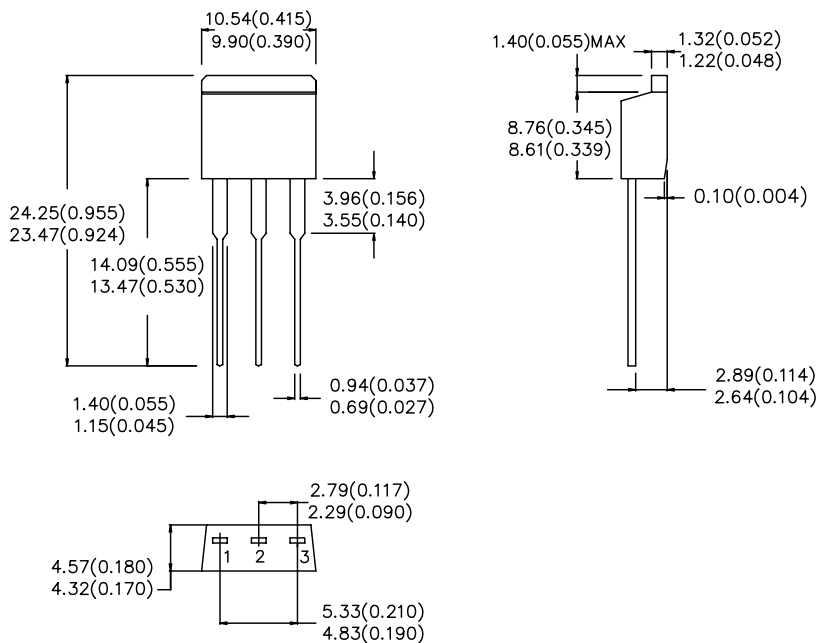
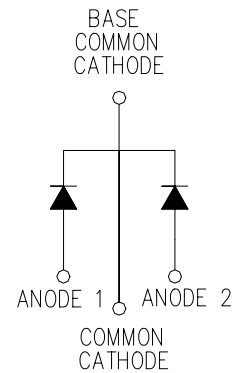
Mechanical Dimensions: In Inches / mm



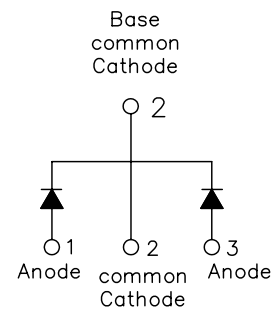
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D²PAK



TO-262



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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	35	V
			45	
			MBR2035CT MBRB2035CT MBR2035CT-1	
			MBR2045CT MBRB2045CT MBR2045CT-1	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 135\text{ }^\circ\text{C}$, rectangular wave form	10 (per leg) 20 (per device)	A
Peak Repetitive Forward Current (pre leg)	I_{FRM}	Rated V_R , square wave, 20kHz, $T_C = 135\text{ }^\circ\text{C}$	20	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	220	A
Peak Repetitive Reverse Surge Current	I_{RRM}	2.0 μsec 1.0 kHz	0.7	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 20 A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.84	V
	V_{F2}	@ 10 A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ @ 20 A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.57 0.72	V
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$, Pulse $T_J = 25\text{ }^\circ\text{C}$	0.1	mA
	I_{R2}	@ $V_R = \text{rated } V_R$, Pulse $T_J = 125\text{ }^\circ\text{C}$	15	mA
Max. Junction Capacitance	C_T	@ $V_R = 5\text{ V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$, $V_{SIG} = 50\text{ mV (p-p)}$	600	pF
Typical Series Inductance	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change (Rated V_R)	dv/dt	-	10,00	V/ μs

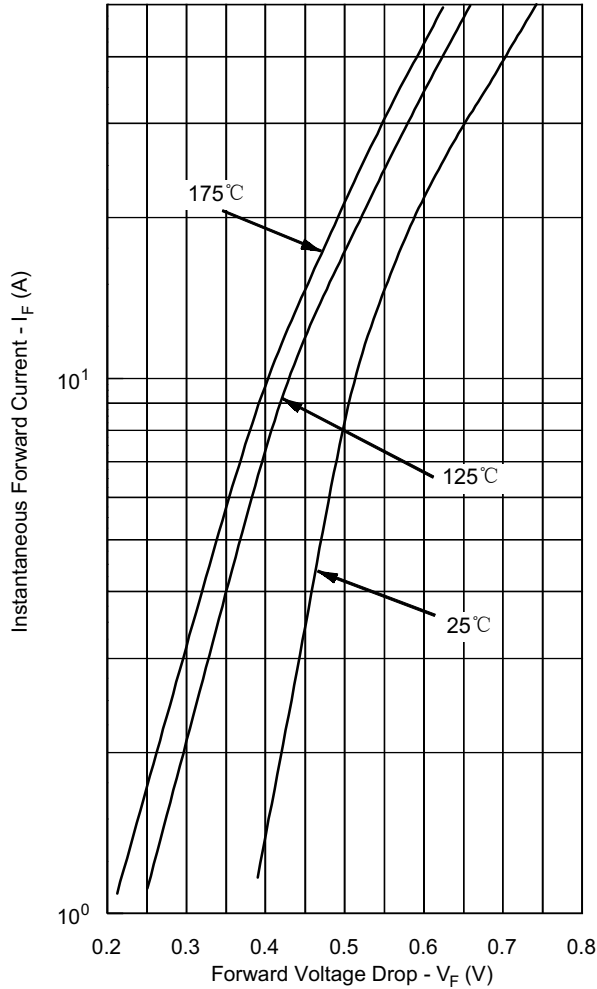
* Pulse Width < 300 μs , Duty Cycle <2%

Thermal-Mechanical Specifications:

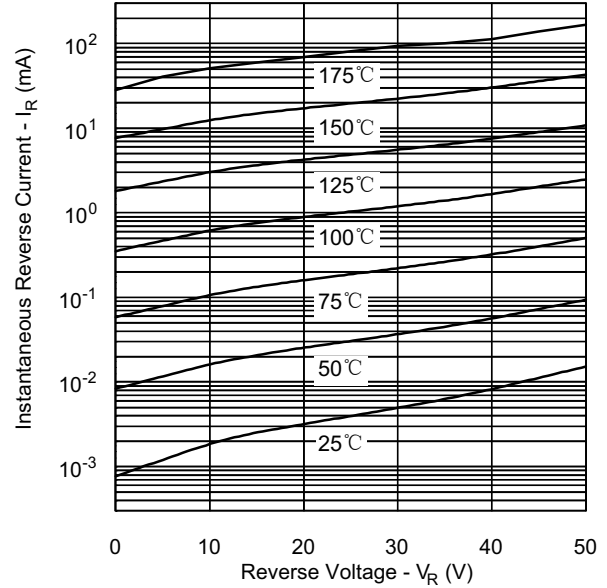
Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-65 to +150	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	2.0	$^\circ\text{C/W}$
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased (only for TO-220)	0.5	$^\circ\text{C/W}$
Approximate Weight	wt	-	2	g
Mounting Torque	T_M	-	6(Min.) 12(Max.)	Kg-cm
Case Style	TO-220AB D ² PAK TO-262 (Suffix "-1" for TO-262,"MBRB x" for D ² PAK)			

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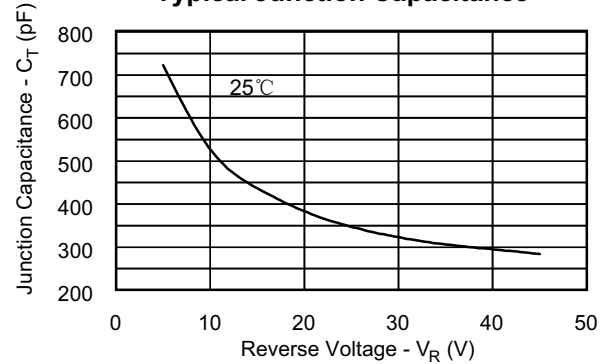
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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