

Technical Data  
Data Sheet 3208, Rev. B

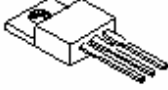
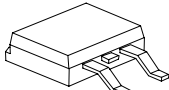
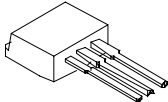
**MBR40...CT/MBRB40...CT/MBR40...CT-1**  
**SCHOTTKY RECTIFIER**

**Applications:**

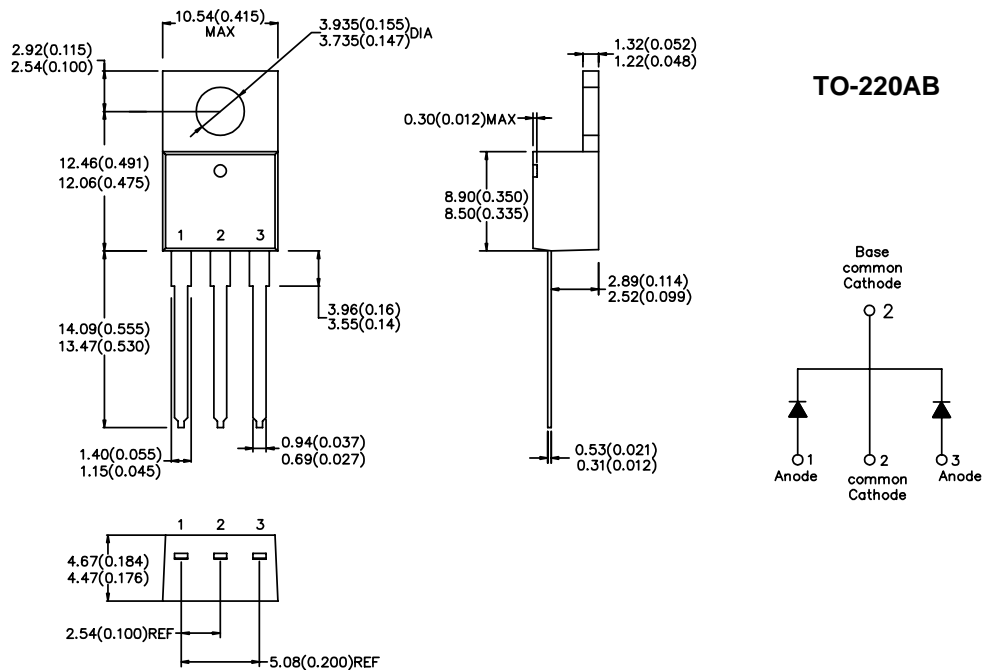
- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

**Features:**

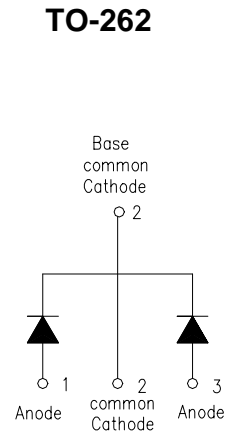
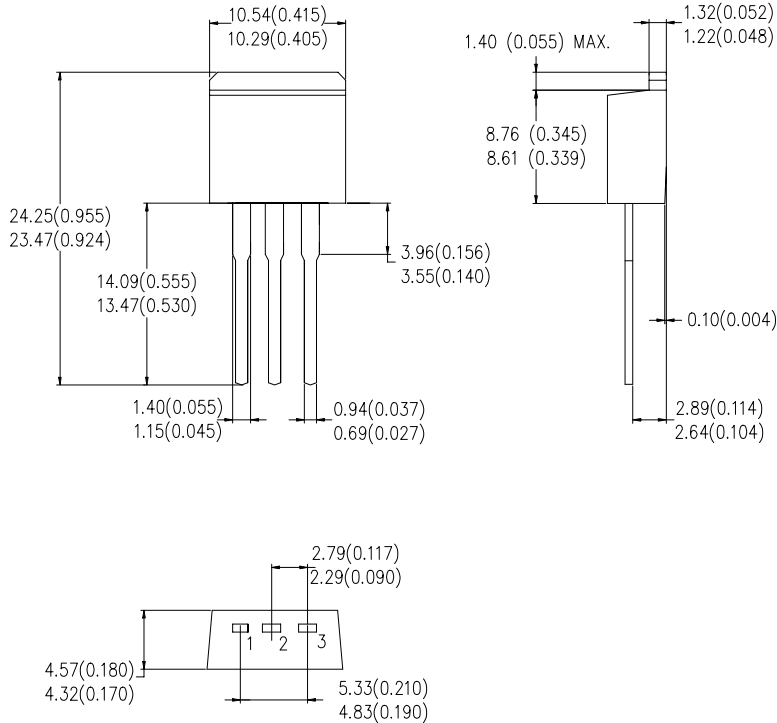
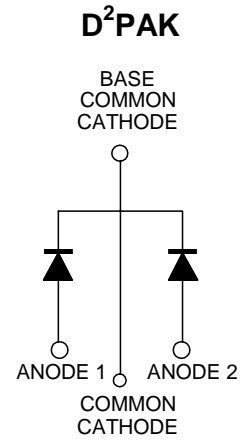
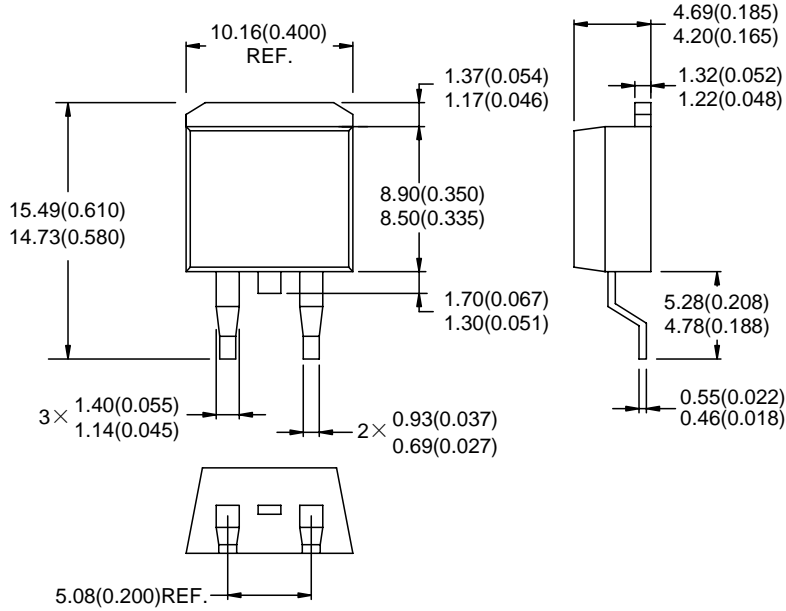
- 150 °C T<sub>J</sub> operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

Case styles		
<b>MBR40...CT</b>  <b>TO-220AB</b>	<b>MBRB40...CT</b>  <b>D<sup>2</sup>PAK</b>	<b>MBR40...CT-1</b>  <b>TO-262</b>

**Mechanical Dimensions: In Inches / mm**



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**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	80 MBR4080CT MBRB4080CT MBR4080CT-1	V
			90 MBR4090CT MBRB4090CT MBR4090CT-1	
			100 MBR40100CT MBRB40100CT MBR40100CT-1	
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C = 135^\circ\text{C}$ , rectangular wave form	20(Per leg) 40(Per device)	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	280	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	$V_{F1}$	@ 20 A, Pulse, $T_J = 25^\circ\text{C}$	0.88	V
		@ 40 A, Pulse, $T_J = 25^\circ\text{C}$	1.02	
	$V_{F2}$	@ 20 A, Pulse, $T_J = 125^\circ\text{C}$	0.74	V
		@ 40 A, Pulse, $T_J = 125^\circ\text{C}$	0.88	
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	1.0	mA
		$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	
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/ $\mu\text{s}$

\* Pulse Width < 300 $\mu\text{s}$ , 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	2.0	°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	g
Mounting Torque	$T_M$	-	6(Min.) 12(Max.)	Kg-cm
Case Style	TO-220AB D <sup>2</sup> PAK TO-262			

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