

Technical Data
Data Sheet 3208, Rev. B

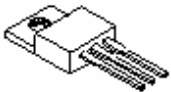
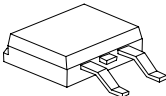
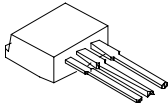
MBR40...CT/MBRB40...CT/MBR40...CT-1 SCHOTTKY RECTIFIER

Applications:

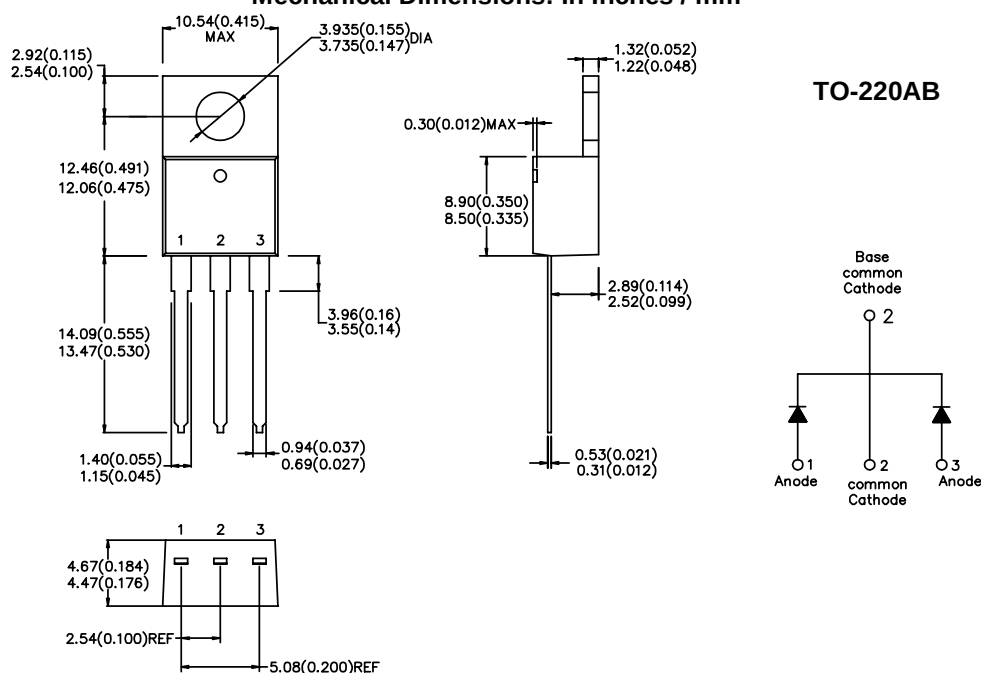
- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

Features:

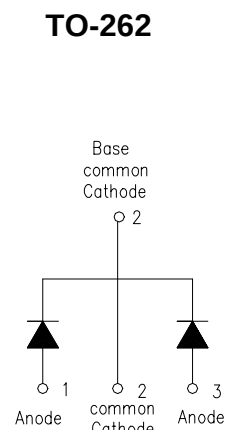
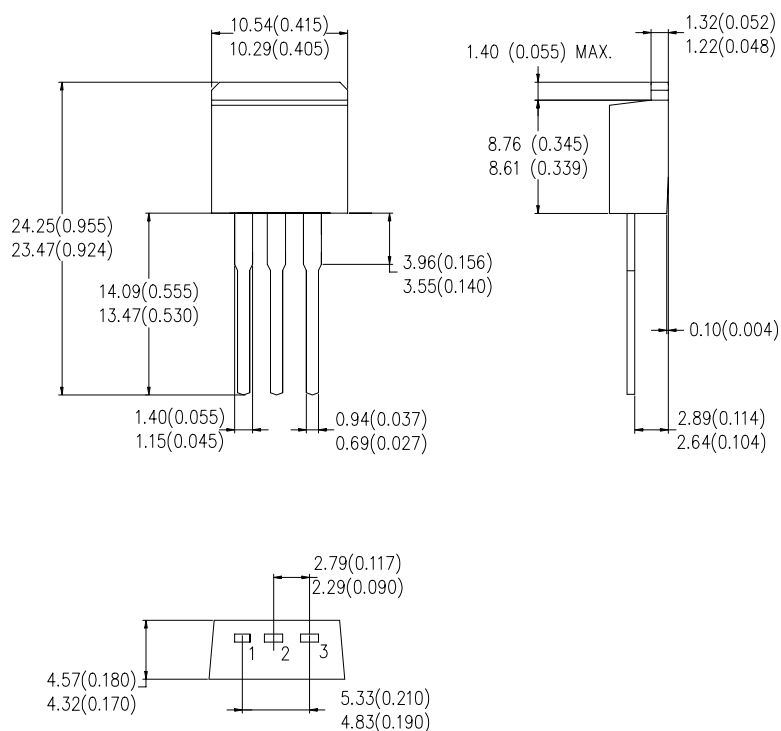
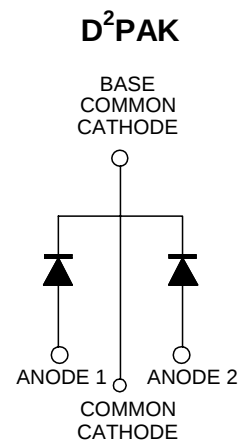
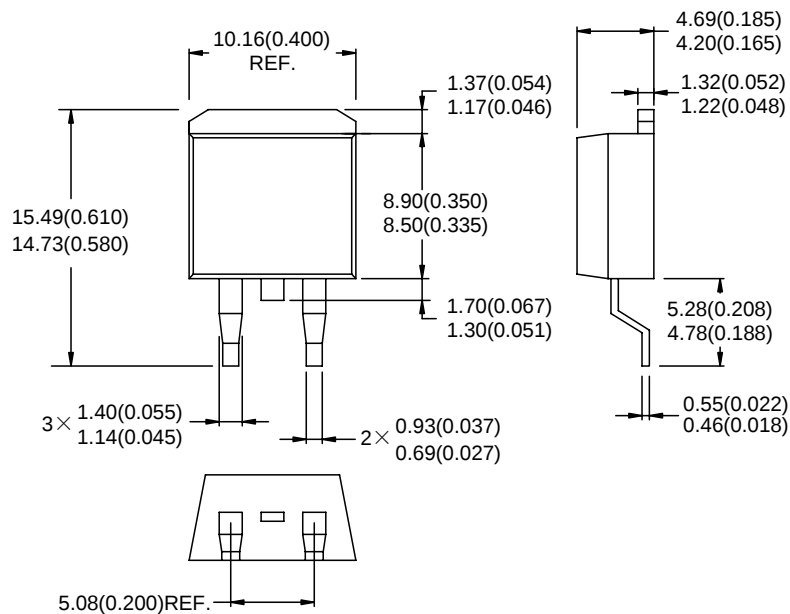
- 150 °C T_J operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

Case styles		
MBR40...CT	MBRB40...CT	MBR40...CT-1
		
TO-220AB	D²PAK	TO-262

Mechanical Dimensions: In Inches / mm



Data Sheet 3208, Rev. B



Data Sheet 3208, Rev. B

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
	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	V
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^{\circ}\text{C}$	1.0	mA
		@ $V_R = \text{rated } V_R$ $T_J = 125^{\circ}\text{C}$	6.0	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^{\circ}\text{C}$ $f_{SIG} = 1\text{MHz}$	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/ μs

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

Data Sheet 3208, Rev. B

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 ² PAK TO-262			

Data Sheet 3208, Rev. B

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