

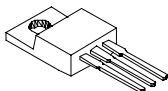
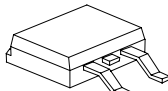
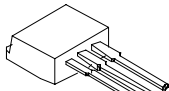
**MBR4045CT-G/MBRB4045CT-G/MBR4045CT-1-G**  
**SCHOTTKY RECTIFIER**

**Applications:**

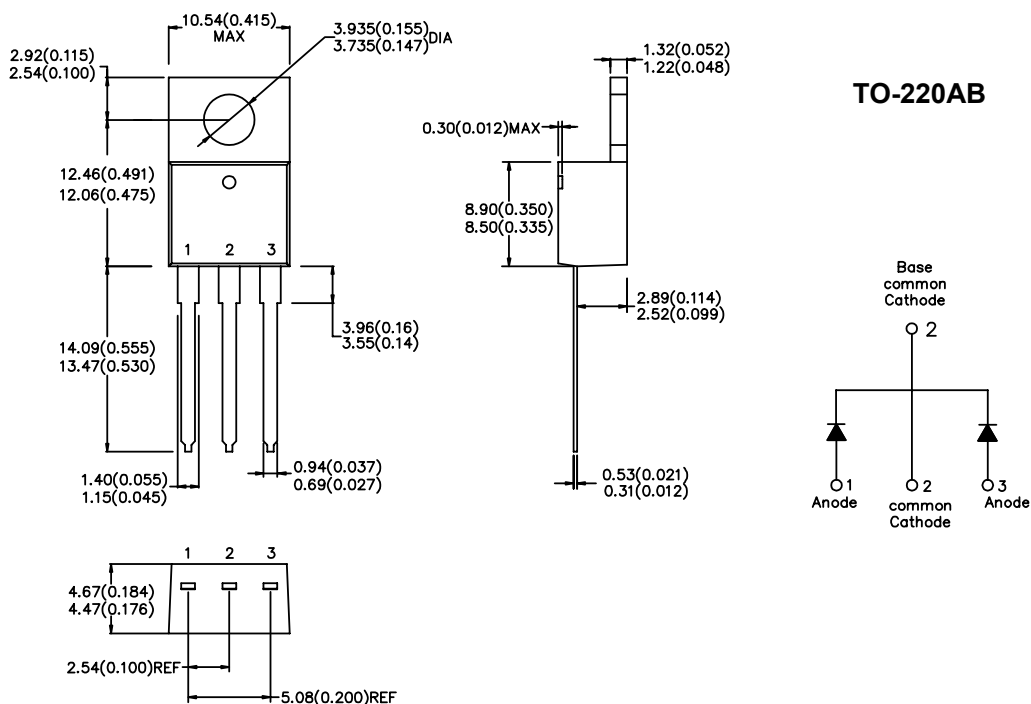
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

**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

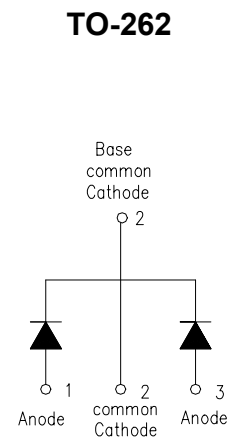
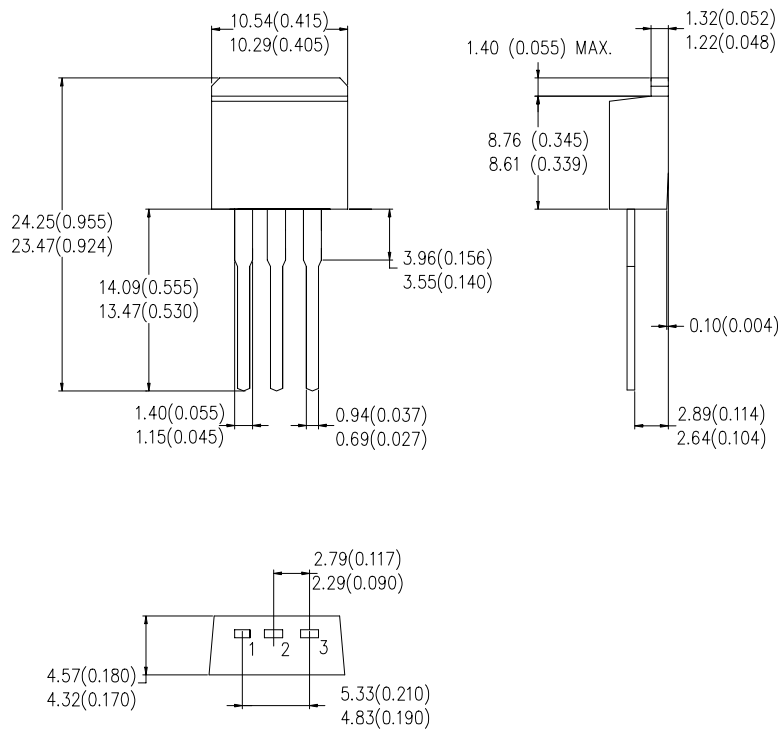
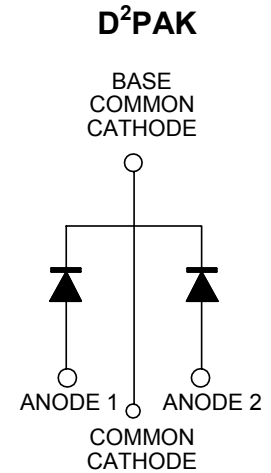
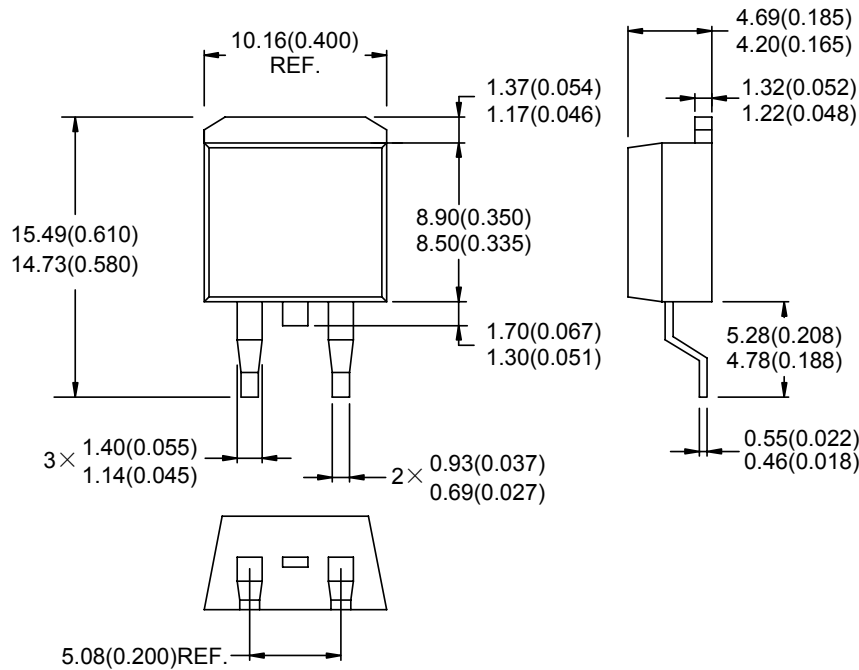
Case styles		
<b>MBR4045CT-G</b>	<b>MBRB4045CT-G</b>	<b>MBR4045CT-1-G</b>
		
<b>TO-220AB</b>	<b>D<sup>2</sup>PAK</b>	<b>TO-262</b>

Mechanical Dimensions: In Inches / mm



**Technical Data**  
**Data Sheet 3752, Rev. A**

**Green Products**



### Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	45	V
Max. Average Forward	$I_{F(AV)}$	@ $T_C = 118^\circ\text{C}$ , Rated $V_R$	20(per leg) 40(per device)	A
Peak Repetitive Forward Current (per leg)	$I_{FRM}$	@ $T_C = 118^\circ\text{C}$ , Rated $V_R$ Square wave, 20kHz	40	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	252	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	$V_{F1}$	@ 20A, Pulse, $T_J = 25^\circ\text{C}$ @ 40A, Pulse, $T_J = 25^\circ\text{C}$	0.60 0.78	V
	$V_{F2}$	@ 20A, Pulse, $T_J = 125^\circ\text{C}$ @ 40A, Pulse, $T_J = 125^\circ\text{C}$	0.58 0.75	V
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	1	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 100^\circ\text{C}$	50	mA
	$I_{R3}$	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	95	mA
Max. Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	900	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%

### Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	$T_J$	-	-55 to +150	$^\circ\text{C}$
Max. Storage Temperature	$T_{stg}$	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	1.5	$^\circ\text{C/W}$
Maximum Thermal Resistance, Junction to Case(Per package)	$R_{\theta JC}$	DC operation	50	$^\circ\text{C/W}$
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased (only for TO-220)	0.50	$^\circ\text{C/W}$
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(Suffix "-1" for TO-262;"MBRB x" for D <sup>2</sup> PAK)			

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