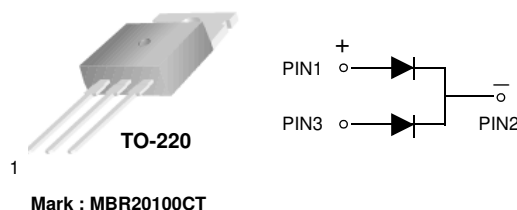


# MBR20100CT

## Dual High Voltage Schottky Rectifier

### Features

- Low Forward Voltage Drop
- Low Power Loss and High Efficiency
- High Surge Capability
- Rohs Compliant
- Matte Tin(Sn) Lead Finish
- Terminal Leads Surface is Corrosion Resistant and can withstand to 260°C



### Absolute Maximum Ratings\* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Unit
$V_{RRM}$	Maximum Repetitive Reverse Voltage	100	V
$V_R$	Maximum DC Reverse Voltage	100	V
$I_{F(AV)}$	Average Rectified Forward Current, $T_c = 120^\circ\text{C}$	10 (Per Leg) 20 (Per Device)	A
$I_{FSM}$	Peak Forward Surge Current, 8.3ms Half Sine wave	150	A
$T_{STG}$	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	150	$^\circ\text{C}$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics\* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Unit
$R_{\theta JC}$	Thermal Resistance, Junction to Case per Leg	1.5	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient per Leg	62.5	$^\circ\text{C}/\text{W}$

\* JESD51-10

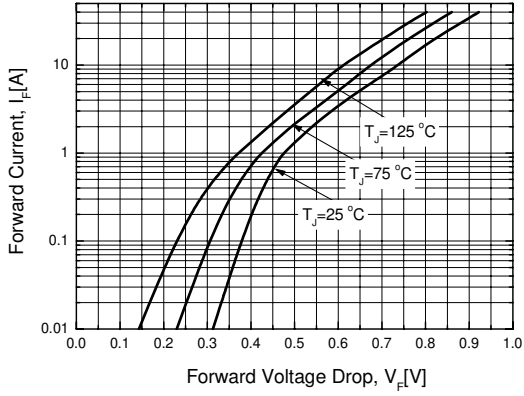
### Electrical Characteristics\* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Unit
$I_R$	Reverse Current	$V_R = 100\text{V}$ $T_c = 25^\circ\text{C}$ $V_R = 100\text{V}$ $T_c = 125^\circ\text{C}$		0.2 5	mA
$V_F$	Forward Voltage	$I_F = 10\text{A}$ $T_c = 25^\circ\text{C}$ $I_F = 10\text{A}$ $T_c = 125^\circ\text{C}$ $I_F = 20\text{A}$ $T_c = 25^\circ\text{C}$ $I_F = 20\text{A}$ $T_c = 125^\circ\text{C}$		0.8 0.7 0.9 0.8	V

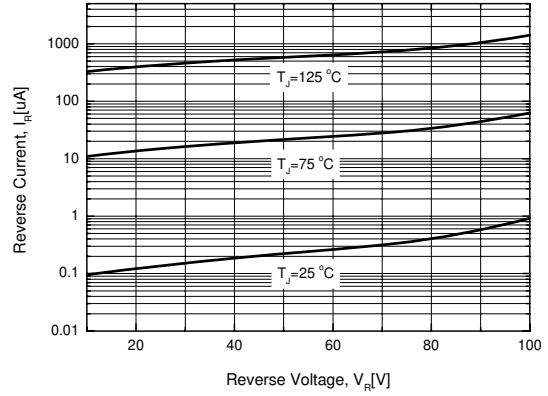
\* DC Item are tested by Pulse Test : Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

## Typical Performance Characteristics

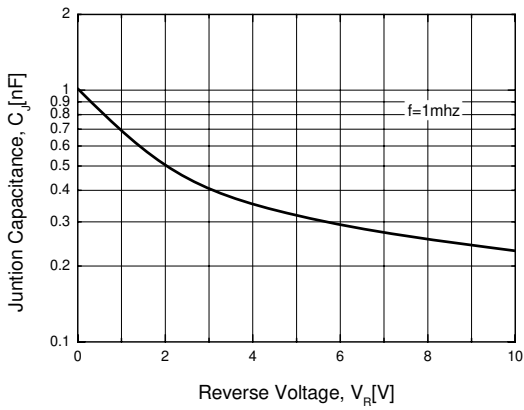
**Figure 1. Forward Current Characteristics**



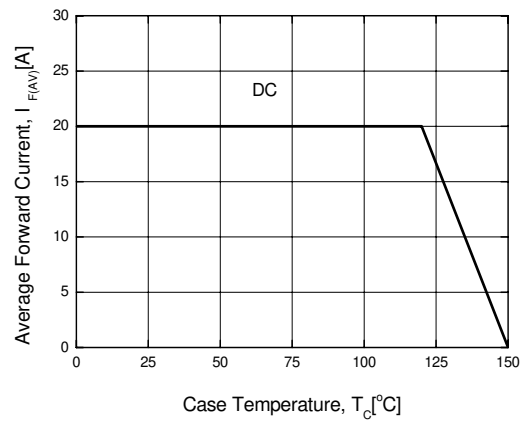
**Figure 2. Reverse Leakage Current**



**Figure 3. Junction Capacitance**

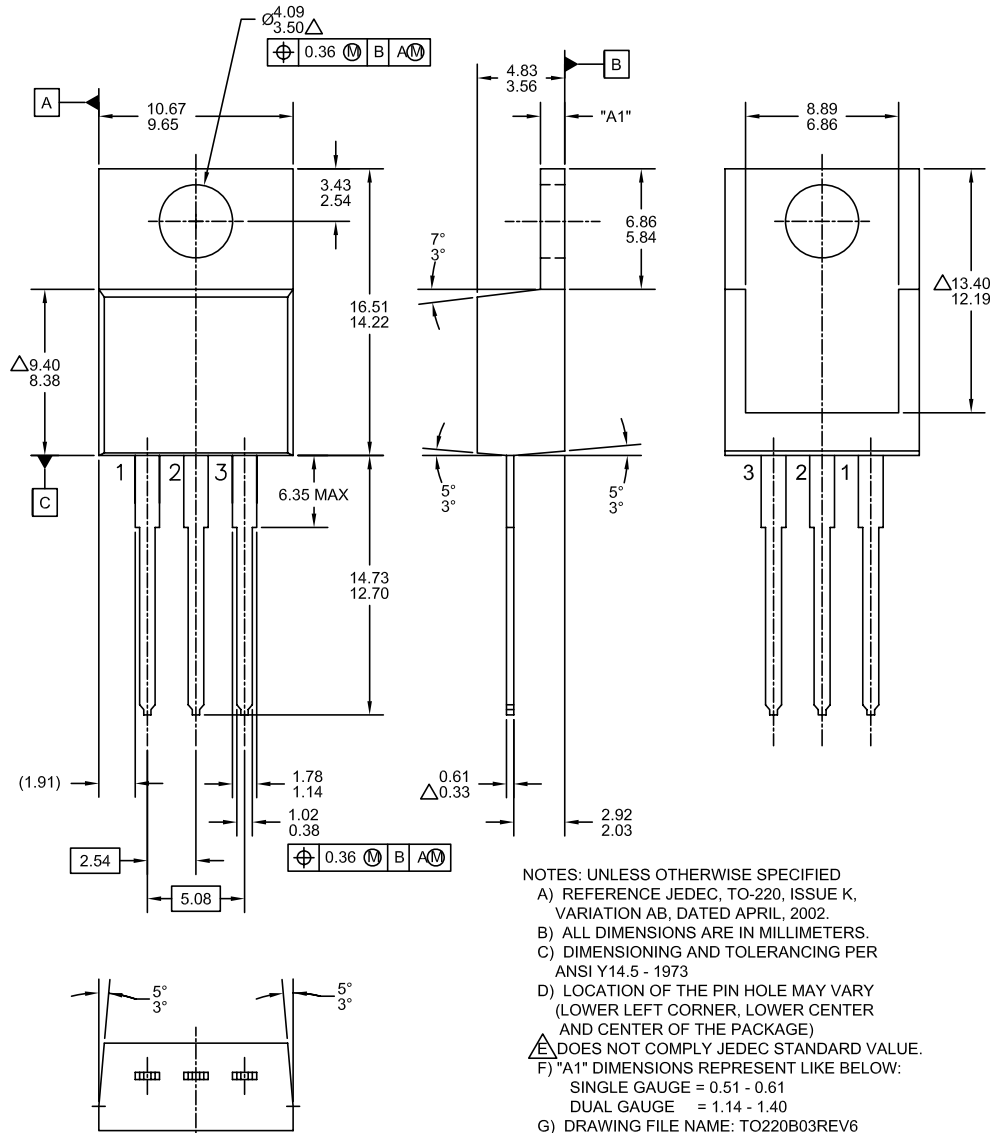


**Figure 4. Power Derating**



Physical Dimensions

TO-220 [ DUAL GAUGE ]



- NOTES: UNLESS OTHERWISE SPECIFIED  
A) REFERENCE JEDEC, TO-220, ISSUE K, VARIATION AB, DATED APRIL, 2002.  
B) ALL DIMENSIONS ARE IN MILLIMETERS.  
C) DIMENSIONING AND TOLERANCING PER ANSI Y14.5 - 1973  
D) LOCATION OF THE PIN HOLE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE)  
E) DOES NOT COMPLY JEDEC STANDARD VALUE.  
F) "A1" DIMENSIONS REPRESENT LIKE BELOW:  
SINGLE GAUGE = 0.51 - 0.61  
DUAL GAUGE = 1.14 - 1.40  
G) DRAWING FILE NAME: TO220B03REV6

Dimensions in Millimeters



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- |                          |                                     |                                       |   |
|--------------------------|-------------------------------------|---------------------------------------|---|
| AccuPower™               | F-PFS™                              | Power-SPM™                            | <p><b>SYSTEM GENERAL</b><br/>The Power Franchise®<br/>the <b>power</b> franchise<br/>TinyBoost™<br/>TinyBuck™<br/>TinyCalc™<br/>TinyLogic®<br/>TINYOPTO™<br/>TinyPower™<br/>TinyPWM™<br/>TinyWire™<br/>TriFault Detect™<br/>TRUECURRENT™*<br/>µSerDes™<br/> SerDes®<br/>UHC®<br/>Ultra FRFET™<br/>UniFET™<br/>VCX™<br/>VisualMax™<br/>XS™</p> |
| Auto-SPM™                | FRFET®                              | PowerTrench®                          |   |
| Build it Now™            | Global Power Resource <sup>SM</sup> | PowerXS™                              |   |
| CorePLUS™                | Green FPS™                          | Programmable Active Droop™            |   |
| CorePOWER™               | Green FPS™ e-Series™                | QFET®                                 |   |
| CROSSVOLT™               | Gmax™                               | QS™                                   |   |
| CTL™                     | GTO™                                | Quiet Series™                         |   |
| Current Transfer Logic™  | IntelliMAX™                         | RapidConfigure™                       |   |
| DEUXPEED®                | ISOPLANAR™                          | ™                                     |   |
| Dual Cool™               | MegaBuck™                           | Saving our world, 1mW/W/kW at a time™ |   |
| EcoSPARK®                | MICROCOUPLER™                       | SignalWise™                           |   |
| EfficientMax™            | MicroFET™                           | SmartMax™                             |   |
| ESBC™                    | MicroPak™                           | SMART START™                          |   |
| Fairchild®               | MicroPak2™                          | SPM®                                  |   |
| Fairchild Semiconductor® | MillerDrive™                        | STEALTH™                              |   |
| FACT Quiet Series™       | MotionMax™                          | SuperFET®                             |   |
| FACT®                    | Motion-SPM™                         | SuperSOT™-3                           |   |
| FAST®                    | OptoHit™                            | SuperSOT™-6                           |   |
| FastvCore™               | OPTOLOGIC®                          | SuperSOT™-8                           |   |
| FETBench™                | OPTOPLANAR®                         | SupreMOS®                             |   |
| FlashWriter®*            | ™                                   | SyncFET™                              |   |
| FPS™                     | PDP SPM™                            | Sync-Lock™                            |   |

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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
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