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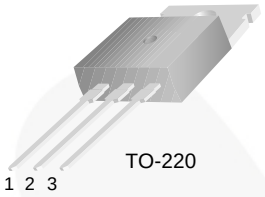
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

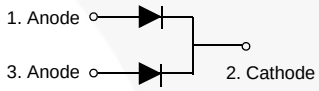
July 2014

MBR20150CT
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 able to Withstand to 260°C
- Wave Soldering or per MIL-STD-750 Method 2026.
- Dual common Cathode





Ordering Information

Part Number	Top Mark	Package	Packing Method
MBR20150CTTU	MBR20150CT	TO-220 3L	Rail

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter		Value	Unit
V_{RRM}	Maximum Repetitive Reverse Voltage		150	V
V_R	Maximum DC Reverse Voltage		150	V
$I_{F(AV)}$	Average Rectified Forward Current, at T_C = 120°C	per Leg	10	A
		per Device	20	
I_{FSM}	Peak Forward Surge Current, 8.3 ms Half-Sine Wave		150	A
T_{STG}	Storage Temperature Range		-50 to +150	°C
T_J	Operating Junction Temperature		150	°C

Thermal Characteristics[1]

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case per Leg	1.5	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient per Leg	62.5	°C/W

Note:

1. MIL standard 883-1012 and JESD51-10.

Electrical Characteristics[2]

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Unit
I_R	Reverse Current	V_R = 150 V, T_C = 25°C		0.2	mA
		V_R = 150 V, T_C = 125°C		2.0	
V_F	Forward Voltage	I_F = 10 A, T_C = 25°C		0.85	V
		I_F = 10 A, T_C = 125°C		0.75	
		I_F = 20 A, T_C = 25°C		0.95	
		I_F = 20 A, T_C = 125°C		0.85	

Note:

2. DC Item are tested by pulse test: pulse width ≤ 300 μs, duty cycle ≤ 2%.

Typical Performance Characteristics

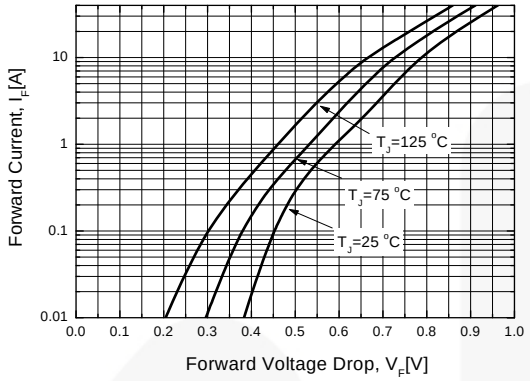


Figure 1. Forward Current Characteristics

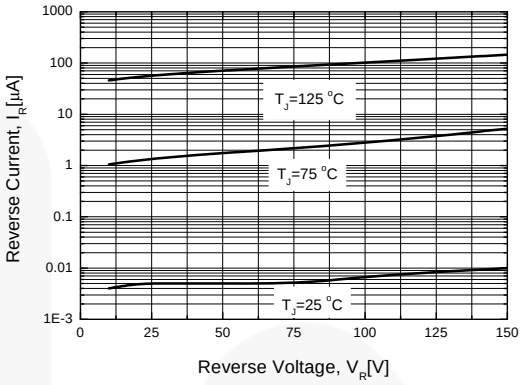


Figure 2. Reverse Leakage Current

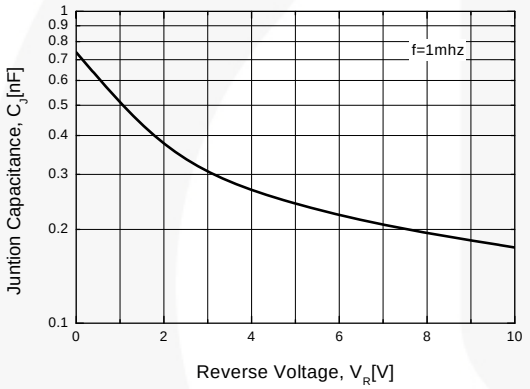


Figure 3. Junction Capacitance

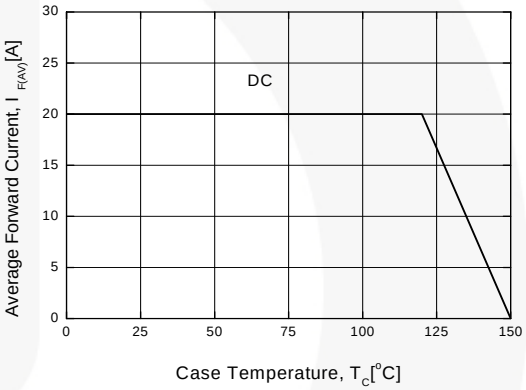


Figure 4. Power Derating

Physical Dimensions

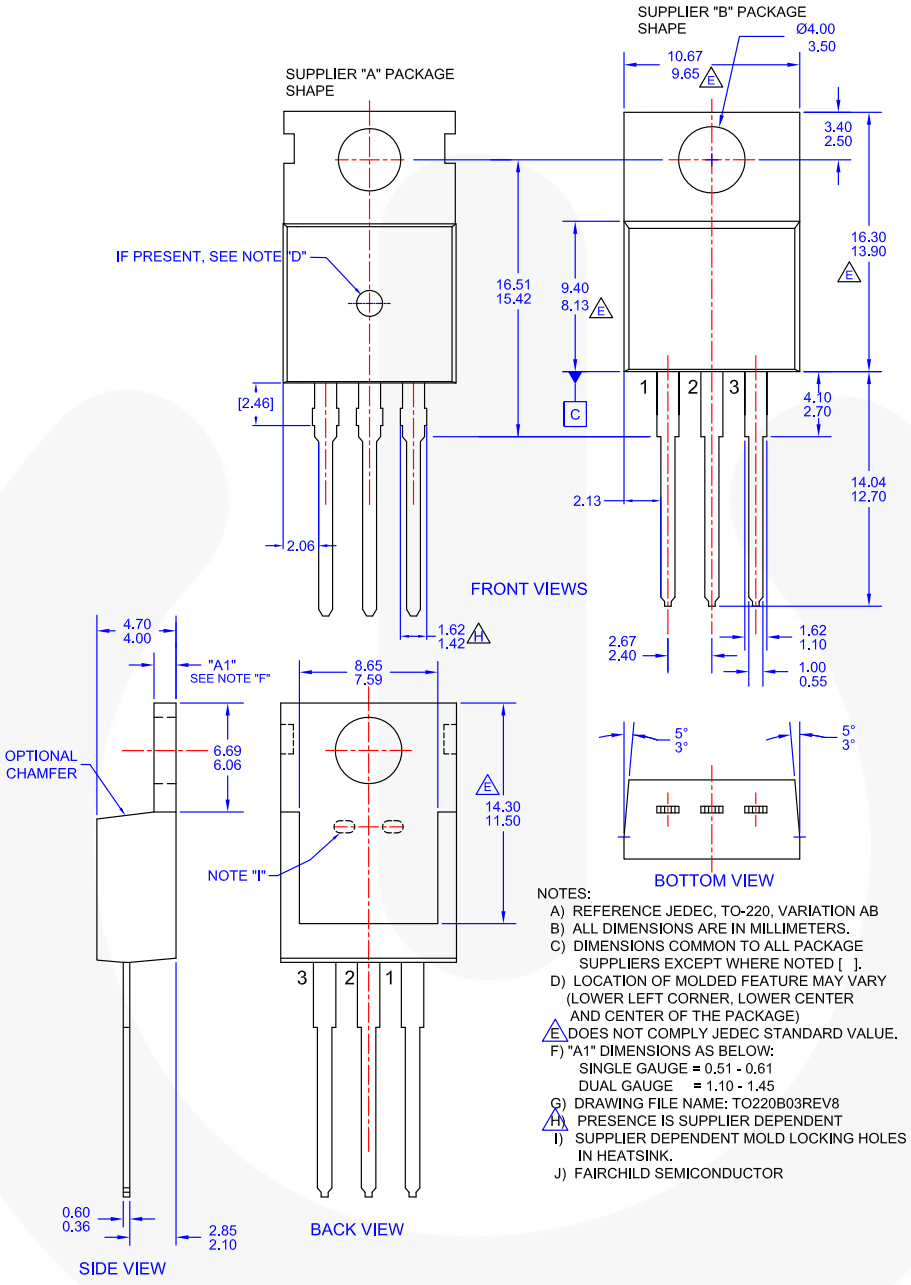


Figure 5. TO-220, MOLDED, 3LEAD, JEDEC VARIATION AB

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http://www.fairchildsemi.com/dwg/TO/TO220B03.pdf.

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Advance Information	Formative / In Design	Datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
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.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

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