



20A SCHOTTKY BARRIER RECTIFIER

Product Summary

MBRD20200CT (Per Leg)

V _{RRM} (V)	I _O (A)	V _{F (MAX)} (V) @ +25°C	I _{R (MAX)} (mA) @ +25°C
200	10	0.90	0.05

Description and Applications

This Schottky Barrier Rectifier is designed to meet the stringent requirements of Commercial Applications.

- Polarity Protection Diode
- Re-Circulating Diode
- Switching Diode



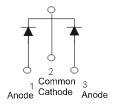
TO252 (DPAK) Top View

Features and Benefits

- Guard Ring Die Construction for Transient Protection
- High Surge Current Capability
- Low Forward Voltage Drop
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

- Case: TO252 (DPAK)
- Case Material: Molded Plastic, "Green" Molding Compound;
 UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin Annealed over Copper Leadframe;
 Solderable per MIL-STD-202, Method 208 (§3)
- Polarity: See Below
- Weight: 0.317grams (Approximate)



Package Pin Out Configuration

Ordering Information (Note 4)

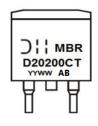
Part Number	Case	Packaging
MBRD20200CT-13	TO252 (DPAK)	2,500 pieces/reel

Notes:

- 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
- 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information

TO252 (DPAK)



MBRD20200CT = Product Type Marking Code AB = Foundry and Assembly Code YYWW = Date Code Marking YY = Last Two Digits of Year (ex: 14 = 2014) WW = Week (01 - 53)



Maximum Ratings (Per Leg) (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance load, derate current by 20%.

Characteristic		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RM} V _{RM} V _{RM}	200	V
Average Rectified Output Current	(Per Leg) (Total)	lo	10 20	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I _{FSM}	150	A

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case (Note 5)	R _θ JC	6	°C/W
Typical Thermal Resistance, Junction to Ambient (Note 5)	R ₀ JA	22	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

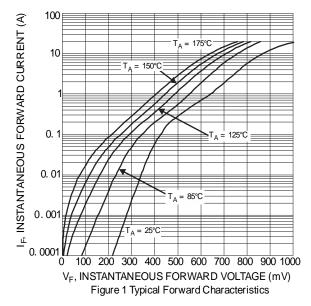
Electrical Characteristics (Per Leg) (@T_A = +25°C, unless otherwise specified.)

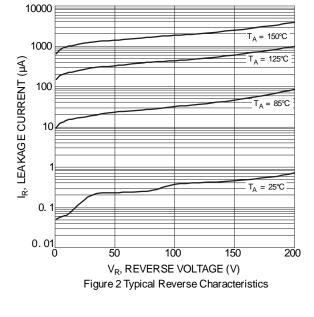
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	VF	1	0.84	0.90	· · · · · · · · · · · · · · · · · · ·	$I_F = 10A, T_J = +25$ °C
Trotward voltage brop	٧F	_	0.70	_		$I_F = 10A, T_J = +125$ °C
Lockago Current (Note C)	I _R		_	0.05	I MA	$V_R = 200V, T_J = +25$ °C
Leakage Current (Note 6)		_	1.0	_		$V_R = 200V, T_J = +125$ °C

Notes: 5. Test with 2-inch Al board.

6. Short duration pulse test used to minimize self-heating effect.







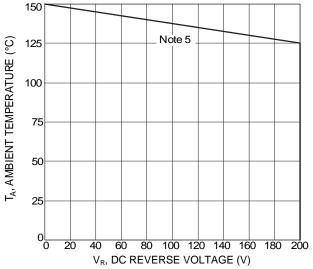
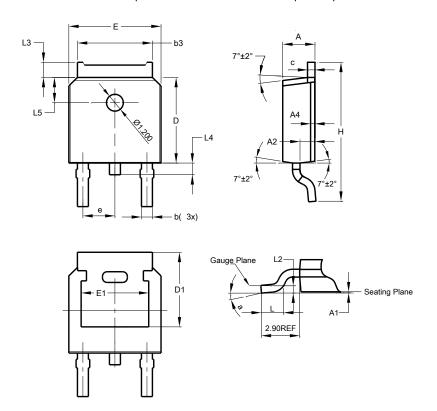


Figure 3 Operating Temperature Derating



Package Outline Dimensions

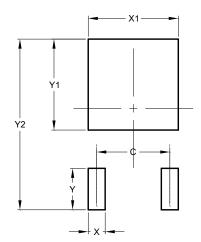
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



TO252 (DPAK)					
(Type B)					
Dim	Min	Max	Тур		
Α	2.20	2.38	2.30		
A 1	0.00	0.10	-		
A2	0.97	1.17	1.07		
A4	0	.10 RE	F		
b	0.72	0.85	0.78		
b3	5.23	5.45	5.33		
O	0.47	0.58	0.53		
ם	6.00	6.20	6.10		
D1	5.30 REF				
e	2.286 BSC				
Е	6.50	6.70	6.60		
E1	4.70	4.92	4.83		
Ι	9.90	10.10	10.30		
J	1.40	1.70	1.60		
L2	0.51 BSC				
L3	0.90	1.25	-		
L4	0.60	1.00	0.80		
L5	1.70	1.90	1.80		
а	0°	8°	-		
All Dimensions in mm					

Suggested Pad layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
С	4.572
Х	1.060
X1	5.632
Y	2.600
Y1	5.700
Y2	10.700



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