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[MBRD10200CT-13](#)

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**MBRD10200CT**

**10A SCHOTTKY BARRIER RECTIFIER**

## Product Summary

MBRD10200CT (Per Leg)

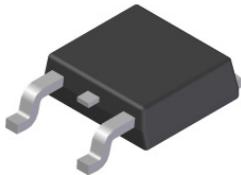
V <sub>RRM</sub> (V)	I <sub>0</sub> (A)	V <sub>F</sub> (MAX) (V) @ +25°C	I <sub>R</sub> (MAX) (mA) @ +25°C
200	5	0.91	0.05

## Description

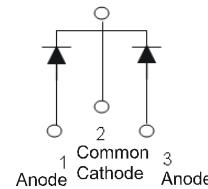
This Schottky Barrier Rectifier is designed to meet the stringent requirements of commercial applications.

## Applications

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



TO252 (DPAK)  
Top View



Package Pin Out Configuration

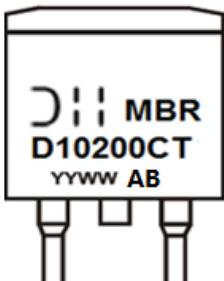
## Ordering Information (Note 4)

Part Number	Case	Packaging
MBRD10200CT-13	TO252 (DPAK)	2500 pieces/reel

Notes:

- EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
- See [http://www.diodes.com/quality/lead\\_free.html](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.
- Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

## Marking Information



MBRD10200CT = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYYW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 14 = 2014)  
 WW = Week (01 - 53)

### Maximum Ratings (Per Leg) (@ $T_A = +25^\circ\text{C}$ , 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	$V_{RRM}$		
Working Peak Reverse Voltage	$V_{RWM}$	200	V
DC Blocking Voltage	$V_{RM}$		
Average Rectified Output Current (Per Leg) (Total)	$I_O$	5 10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	100	A

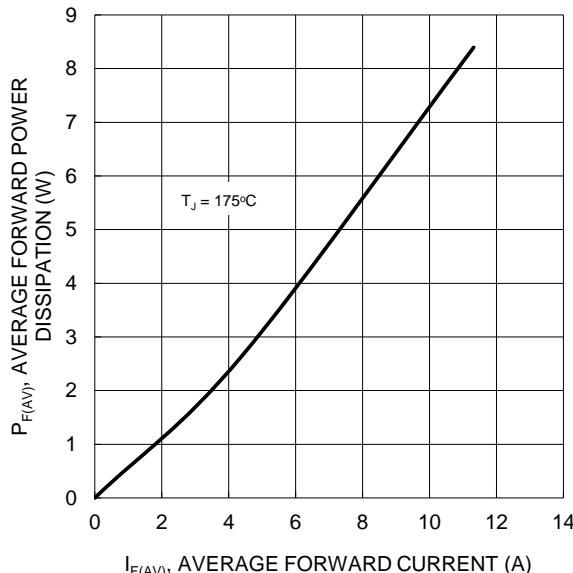
### Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case (Note 5)	$R_{\theta JC}$	6	°C/W
Typical Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	22	°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +175	°C

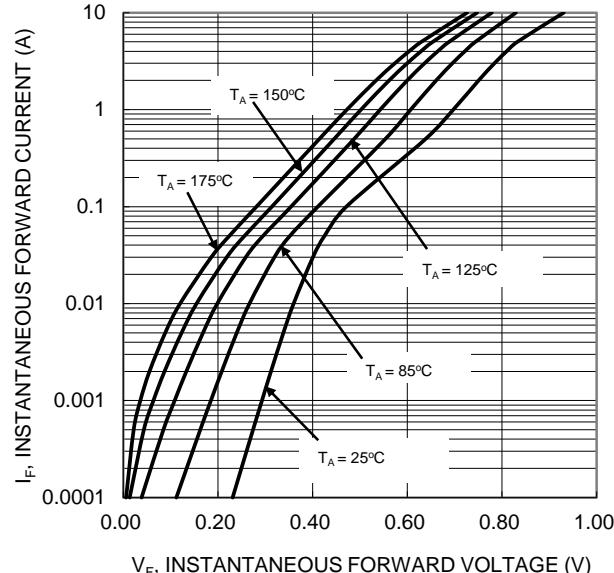
### Electrical Characteristics (Per Leg) (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	$V_F$	—	0.85 —	0.91 0.84	V	$I_F = 5\text{A}, T_J = +25^\circ\text{C}$ $I_F = 5\text{A}, T_J = +125^\circ\text{C}$
Leakage Current (Note 6)	$I_R$	—	—	0.05 10	mA	$V_R = 200\text{V}, T_J = +25^\circ\text{C}$ $V_R = 200\text{V}, T_J = +125^\circ\text{C}$

Notes:  
 5. Test with 2inch Al board.  
 6. Short duration pulse test used to minimize self-heating effect.



I<sub>F(AV)</sub>, AVERAGE FORWARD CURRENT (A)  
 Figure 1 Forward Power Dissipation



V<sub>F</sub>, INSTANTANEOUS FORWARD VOLTAGE (V)  
 Figure 2 Typical Forward Characteristics



**MBRD10200CT**

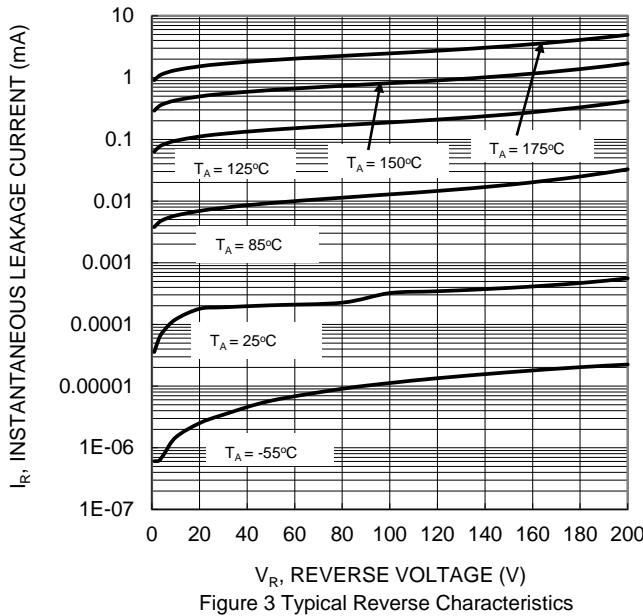


Figure 3 Typical Reverse Characteristics

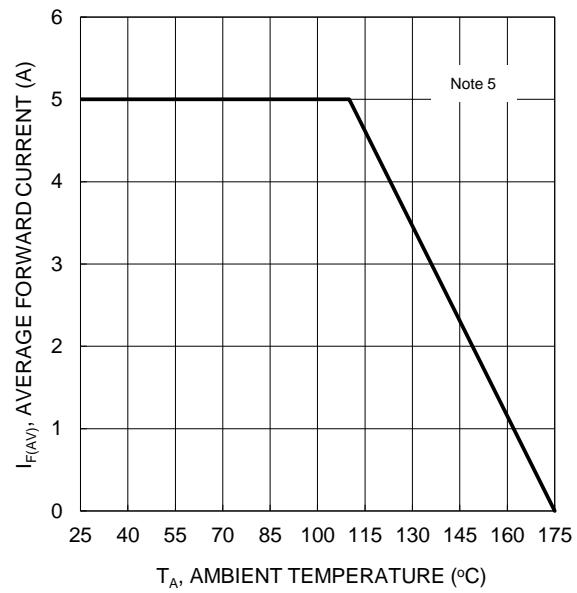
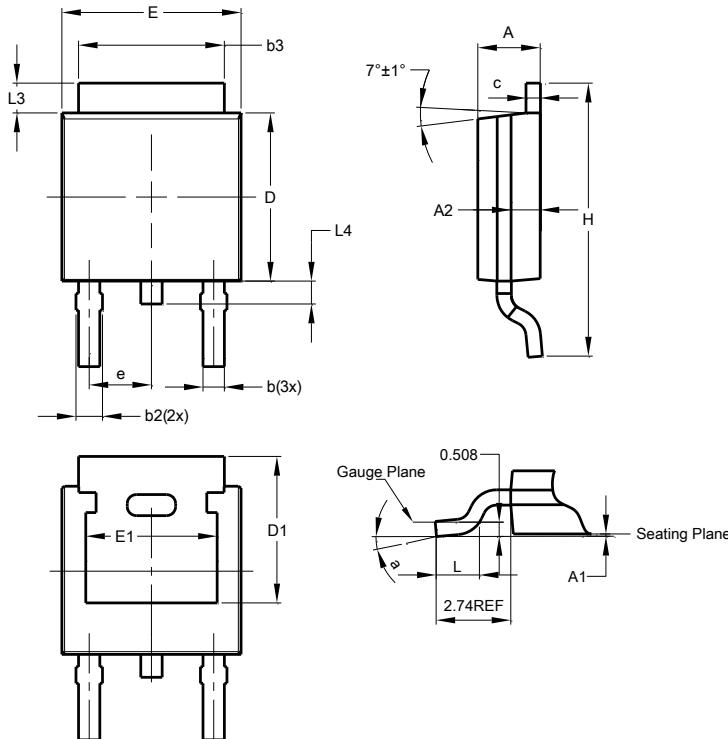


Figure 4 Forward Current Derating Curve

## Package Outline Dimensions

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

**TO252 (DPAK)**



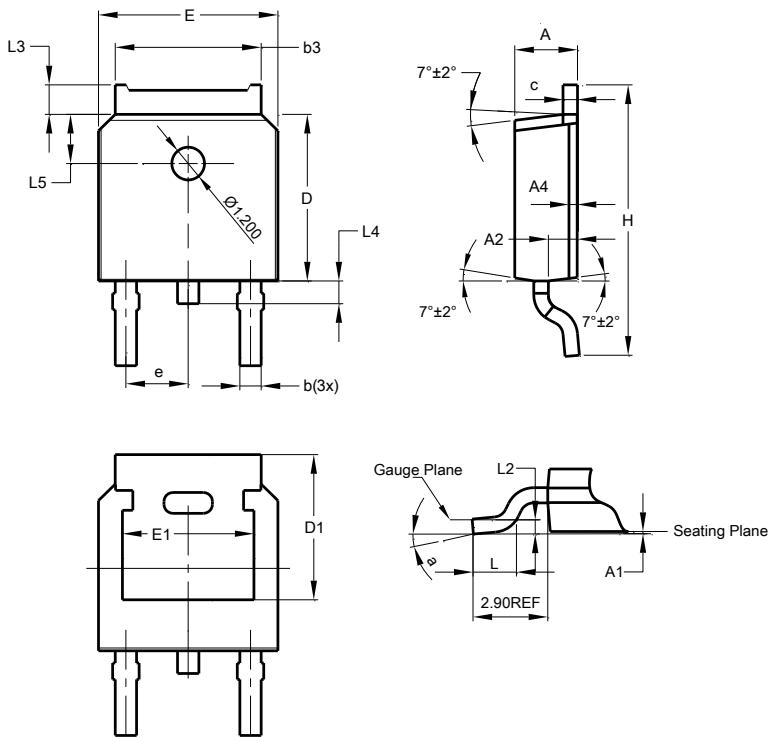
<b>TO252 (DPAK)</b>			
<b>Dim</b>	<b>Min</b>	<b>Max</b>	<b>Typ</b>
<b>A</b>	2.19	2.39	2.29
<b>A1</b>	0.00	0.13	0.08
<b>A2</b>	0.97	1.17	1.07
<b>b</b>	0.64	0.88	0.783
<b>b2</b>	0.76	1.14	0.95
<b>b3</b>	5.21	5.46	5.33
<b>c</b>	0.45	0.58	0.531
<b>D</b>	6.00	6.20	6.10
<b>D1</b>	5.21	-	-
<b>e</b>	-	-	2.286
<b>E</b>	6.45	6.70	6.58
<b>E1</b>	4.32	-	-
<b>H</b>	9.40	10.41	9.91
<b>L</b>	1.40	1.78	1.59
<b>L3</b>	0.88	1.27	1.08
<b>L4</b>	0.64	1.02	0.83
<b>a</b>	0°	10°	-

All Dimensions in mm

## Package Outline Dimensions (Cont.)

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

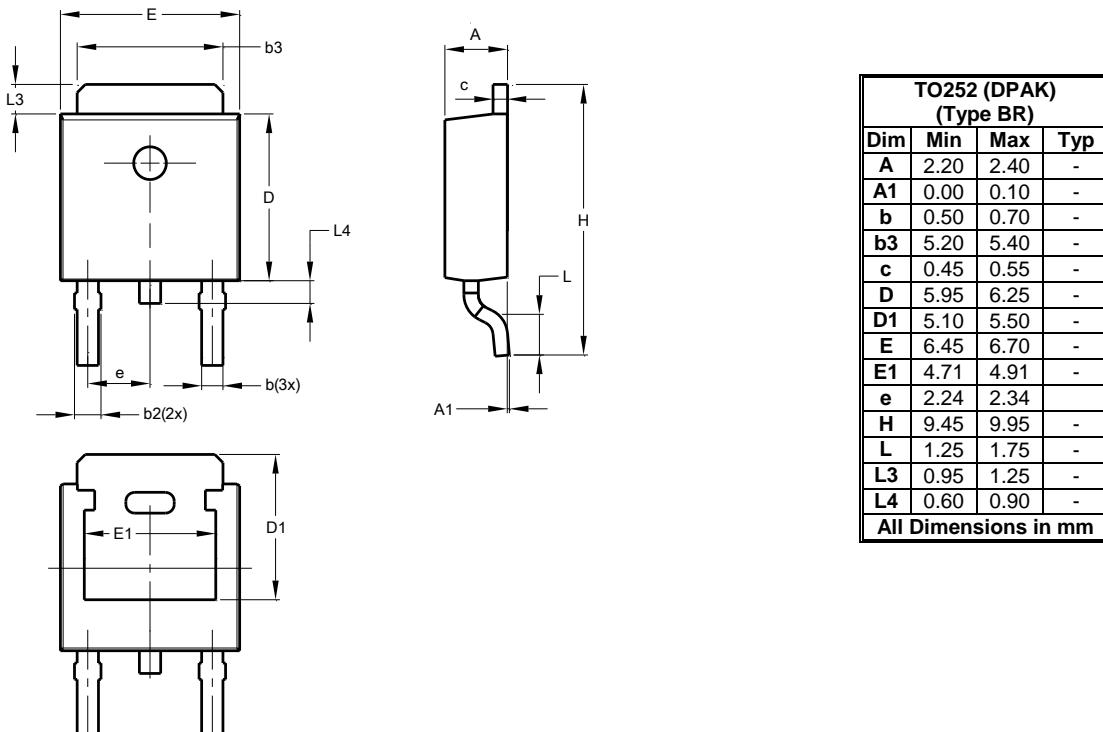
**TO252 (DPAK) (Type TH)**



TO252 (DPAK) (Type TH)			
Dim	Min	Max	Typ
<b>A</b>	2.20	2.38	2.30
<b>A1</b>	0.00	0.10	-
<b>A2</b>	0.97	1.17	1.07
<b>A4</b>	0.10	REF	
<b>b</b>	0.72	0.85	0.78
<b>b3</b>	5.23	5.45	5.33
<b>c</b>	0.47	0.58	0.53
<b>D</b>	6.00	6.20	6.10
<b>D1</b>	5.30	REF	
<b>e</b>	2.286	BSC	
<b>E</b>	6.50	6.70	6.60
<b>E1</b>	4.70	4.92	4.83
<b>H</b>	9.90	10.10	10.30
<b>L</b>	1.40	1.70	1.60
<b>L2</b>	0.51	BSC	
<b>L3</b>	0.90	1.25	-
<b>L4</b>	0.60	1.00	0.80
<b>L5</b>	1.70	1.90	1.80
<b>a</b>	0°	8°	-

All Dimensions in mm

**TO252 (DPAK) (Type BR)**



TO252 (DPAK) (Type BR)			
Dim	Min	Max	Typ
<b>A</b>	2.20	2.40	-
<b>A1</b>	0.00	0.10	-
<b>b</b>	0.50	0.70	-
<b>b3</b>	5.20	5.40	-
<b>c</b>	0.45	0.55	-
<b>D</b>	5.95	6.25	-
<b>D1</b>	5.10	5.50	-
<b>E</b>	6.45	6.70	-
<b>E1</b>	4.71	4.91	-
<b>e</b>	2.24	2.34	
<b>H</b>	9.45	9.95	-
<b>L</b>	1.25	1.75	-
<b>L3</b>	0.95	1.25	-
<b>L4</b>	0.60	0.90	-

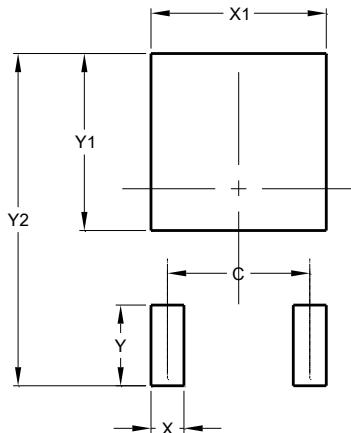
All Dimensions in mm



**MBRD10200CT**

## Suggested Pad layout

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



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

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