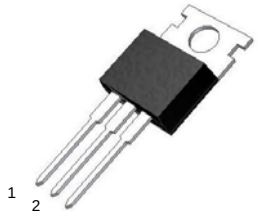
TAK CHEONG®

SEMICONDUCTOR

10A SCHOTTKY BARRIER DIODE
Dual High Voltage Schottky Rectifier

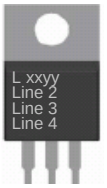
Specification Features:

- High Voltage Wide Range Selection, 100V, 150V & 200V
- High Switching Speed Device
- Low Forward Voltage Drop
- Low Power Loss and High Efficiency
- Guard Ring for Over-voltage Protection
- High Surge Capability
- RoHS Compliant
- Matte Tin(Sn) Lead Finish
- Terminal Leads Surface is Corrosion Resistant and can withstand to 260°C Wave Soldering or per MIL-STD-750, Method 2026.



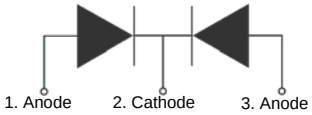
TO-220AB

DEVICE MARKING DIAGRAM



L = Tak Cheong Logo
xxyy = Monthly Date Code
Line 2 = MBR
Line 3 = 10xxxCT
Line 4 = Polarity

POLARITY CONFIGURATION



MAXIMUM RATINGS (Per Leg, unless otherwise specified)

Symbol	Parameter	MBR10100CT	MBR10150CT	MBR10200CT	Units
V_{RRM} V_{RWM} V_R	Maximum Repetitive Reverse Voltage Working Peak Reverse Voltage Maximum DC Reverse Voltage	100	150	200	V
$I_{F(AV)}$	Average Rectified Forward Current Per Leg Per Package		5 10		A
I_{FSM}	Non-repetitive Peak Forward Surge Current 8.3mS Single Phase @ Rated Load		80		A
T_{STG}	Storage Temperature Range		-65 to +150		°C
T_J	Operating Junction Temperature		+150		°C

These ratings are limiting values above which the serviceability of the diode may be impaired.

THERMAL CHARACTERISTIC

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction-to-Case (per leg)	1.5	°C/W
$R_{\theta JA}$	Maximum Thermal Resistance, Junction-to-Ambient (per leg)	62.5	°C/W

ELECTRICAL CHARACTERISTICS (Per Leg) T_A = 25°C unless otherwise noted

Symbol	Parameter	Test Condition (Note 1)	MBR10100CT		MBR10150CT		MBR10200CT		Units
			Min	Max	Min	Max	Min	Max	
I_R	Reverse Current	@ rated V_R	---	100	---	100	---	100	µA
V_F	Forward Voltage	I_F = 5A I_F = 10A	---	0.85 0.95	---	0.92 1.00	---	1.00 1.25	V

Note/s:
1. Tested under pulse condition of 300µS.

TYPICAL CHARACTERISTICS

Figure 1. Forward Current Derating Curve (Per Diode)

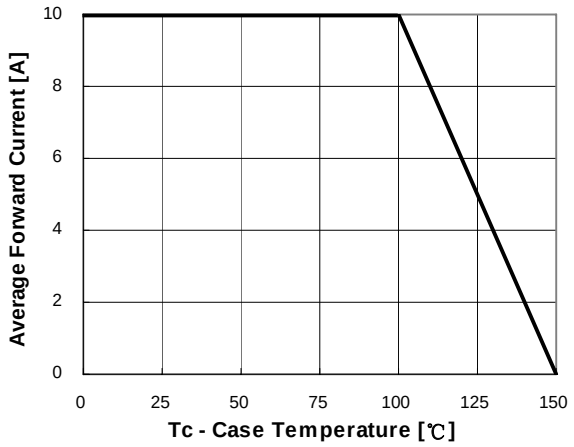


Figure 2. Junction Capacitance (Per Diode)

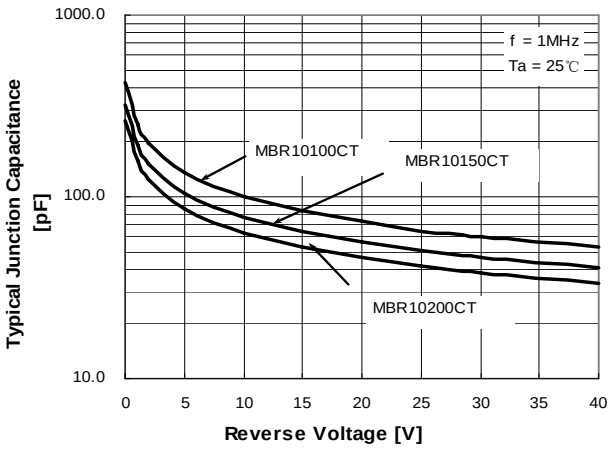


Figure 3. MBR10100CTTypical Reverse Current (Per Diode)

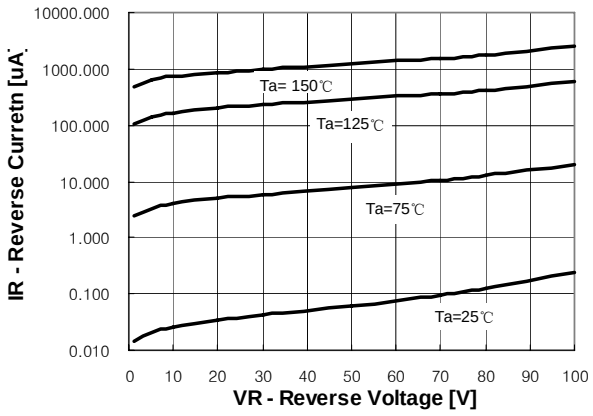


Figure 4. MBR10150CTTypical Reverse Current (Per Diode)

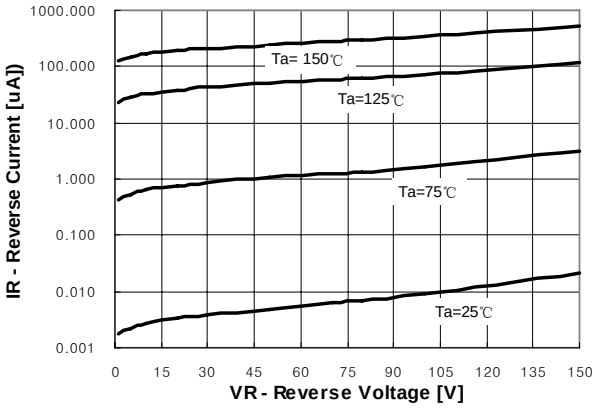


Figure 5. MBR10200CTTypical Reverse Current (Per Diode)

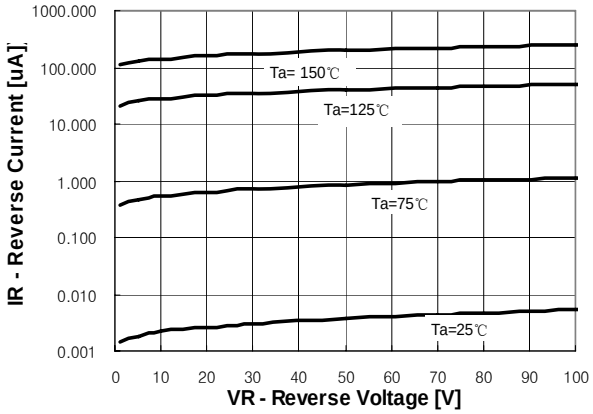


Figure 6. MBR10100CT Typical Forward Voltage (Per Diode)

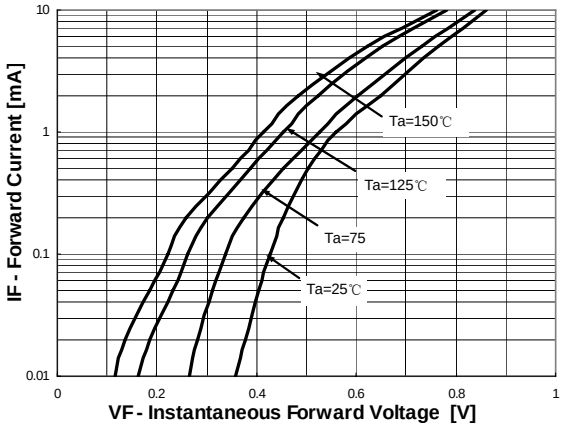


Figure 7. MBR10150CT Typical Forward Voltage (Per Diode)

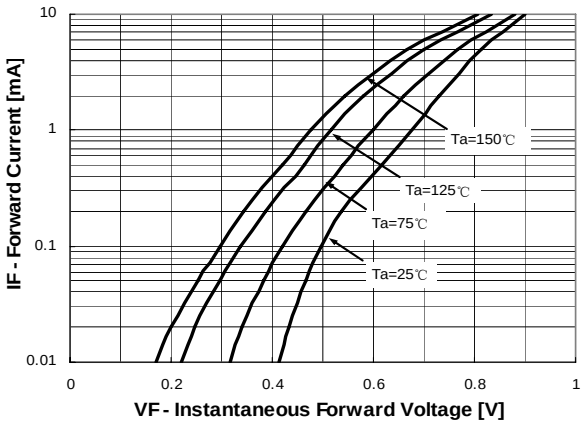
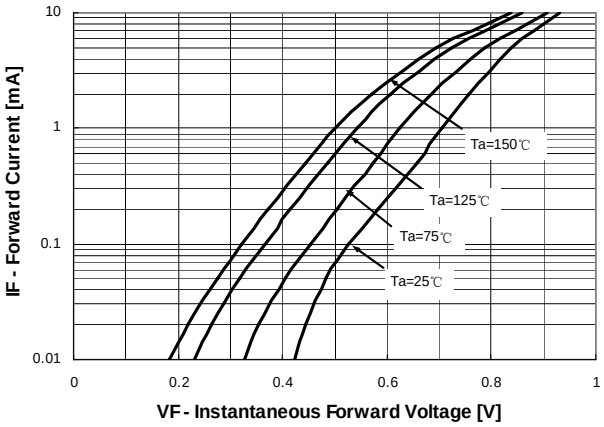
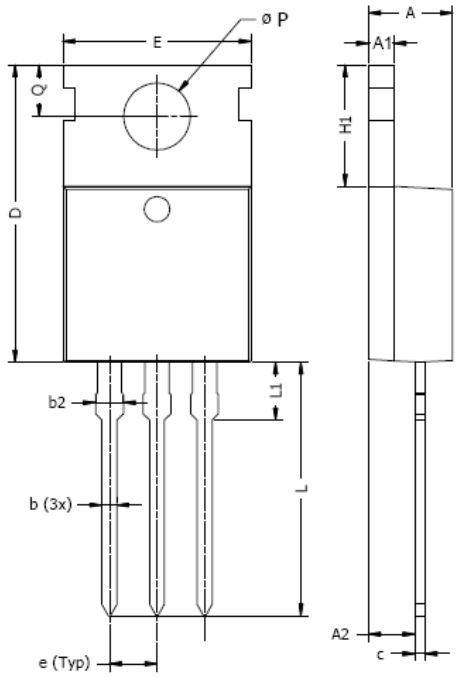


Figure 8. MBR10200CT Typical Forward Voltage (Per Diode)



TO220 PACKAGE OUTLINE



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.60	4.80	0.142	0.189
A1	1.20	1.40	0.047	0.055
A2	2.03	2.90	0.080	0.114
b	0.40	1.00	0.016	0.039
b2	1.20	1.78	0.047	0.070
c	0.36	0.60	0.014	0.024
D	14.22	16.50	0.560	0.650
e	2.34	2.74	0.092	0.108
E	9.70	10.60	0.382	0.417
H1	5.84	6.85	0.230	0.270
L	12.70	14.70	0.500	0.579
L1	2.70	3.30	0.106	0.130
ØP	3.50	4.00	0.138	0.157
Q	2.54	3.40	0.100	0.134

NOTE: Above package outline conforms to JEDEC TO-220AB.

NOTICE

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damagers resulting from such improper use of sale.

This publication supersedes & replaces all information reviously supplied. For additional information, please visit our website http://www.takcheong.com, or consult your nearest Tak Cheong's sales office for further assistance.