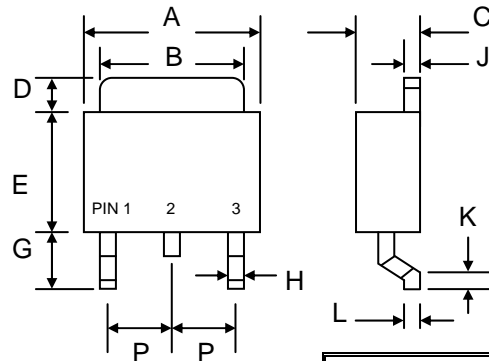


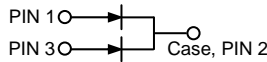
Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- High Surge Current Capability
- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications



Mechanical Data

- Case: DPAK/TO-252, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.3 grams (approx.)
- Mounting Position: Any
- Marking: Device Code, See Page 3
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 4**



DPAK/TO-252		
Dim	Min	Max
A	6.05	6.65
B	5.05	5.55
C	2.25	2.40
D	1.05	1.25
E	5.48	6.08
G	2.55	3.00
H	0.55	0.90
J	0.49	0.55
K	0.95	1.25
L	0.49	0.55
P	2.30 Typical	
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @_{T_A}=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	MBRD	MBRD	MBRD	MBRD	MBRD	MBRD	MBRD	MBRD	Unit	
		1020CT	1030CT	1040CT	1045CT	1050CT	1060CT	1080CT	10100CT		
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	20	30	40	45	50	60	80	100	V	
RMS Reverse Voltage	V _{R(RMS)}	14	21	28	28	35	42	56	70	V	
Average Rectified Output Current @ _{T_C} = 115°C	I _O	10 5.0								A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	100								A	
Forward Voltage per diode @ _{I_F} = 5.0A	V _{FM}	0.55			0.75		0.85			V	
Peak Reverse Current At Rated DC Blocking Voltage	I _{RM}	0.2				15					mA
Typical Junction Capacitance (Note 1)	C _J	500				380					pF
Thermal Resistance, Junction to Ambient (Note 2) Thermal Resistance, Junction to Case (Note 2)	R _{JA} R _{JC}	70				2.5					°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150								°C	

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
2. Mounted on FR-4 PC board with minimum recommended pad layout per diode.

MBRD1020CT – MBRD10100CT

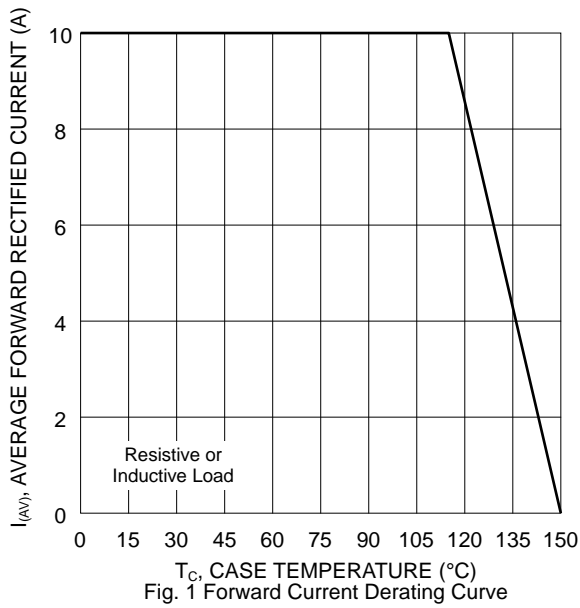


Fig. 1 Forward Current Derating Curve

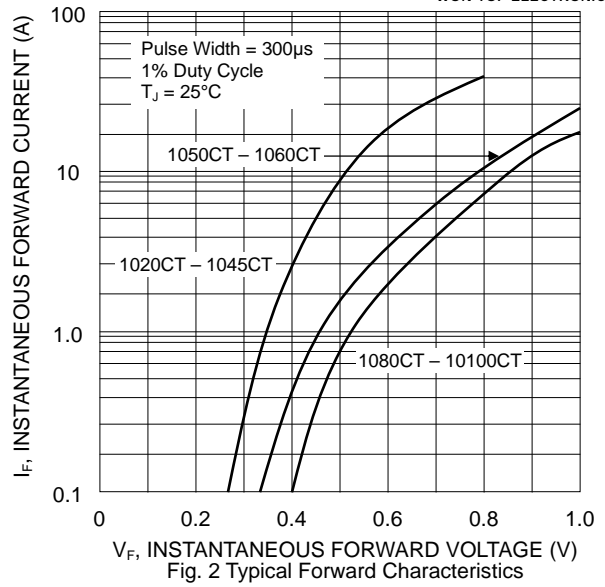


Fig. 2 Typical Forward Characteristics

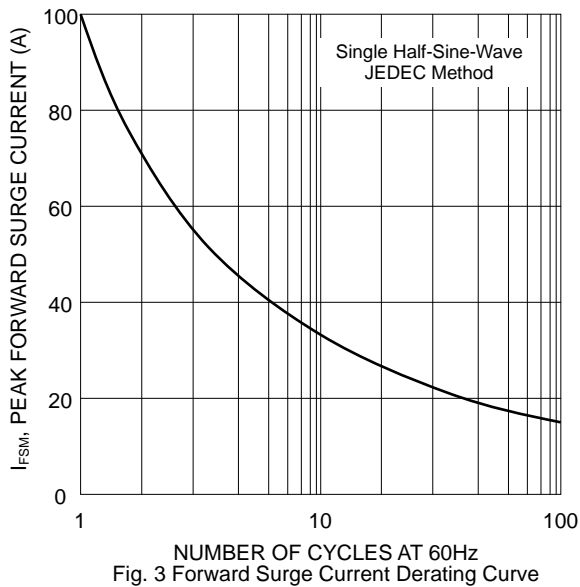


Fig. 3 Forward Surge Current Derating Curve

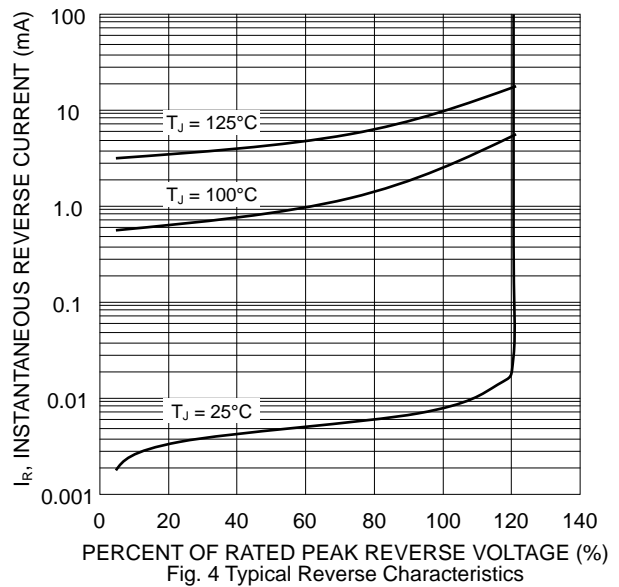


Fig. 4 Typical Reverse Characteristics

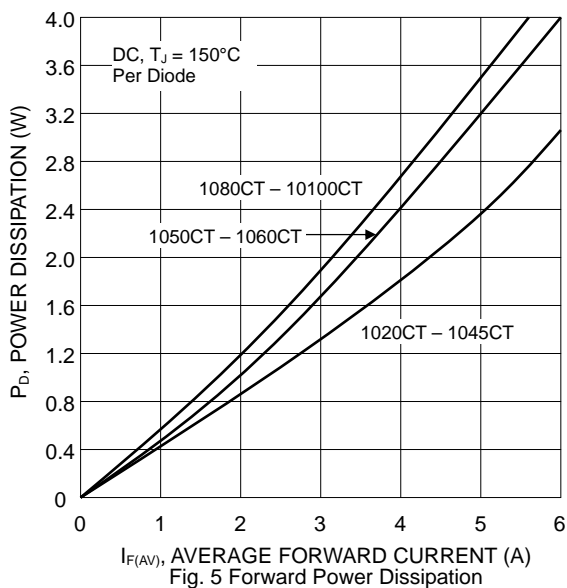


Fig. 5 Forward Power Dissipation

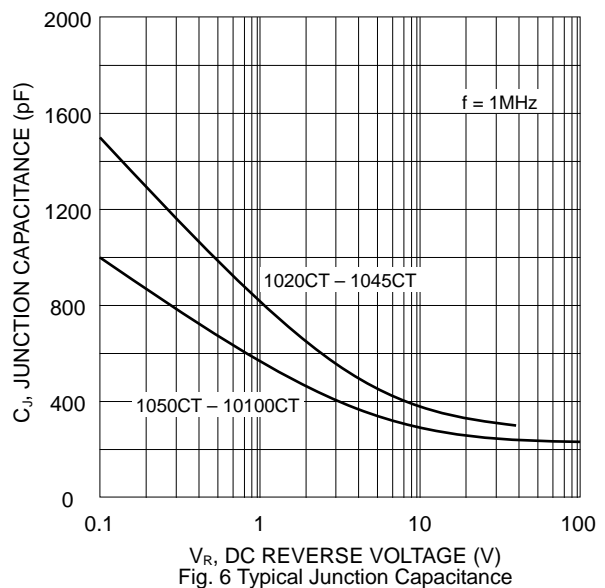
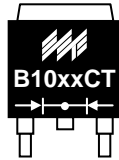


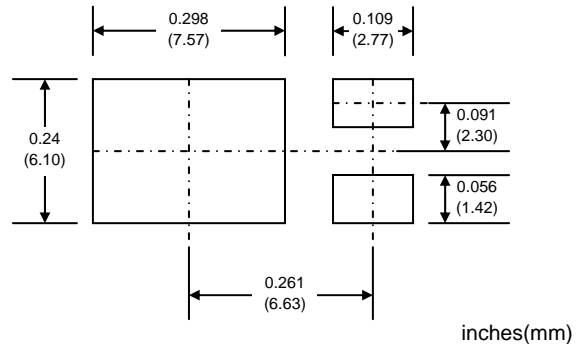
Fig. 6 Typical Junction Capacitance

MARKING INFORMATION



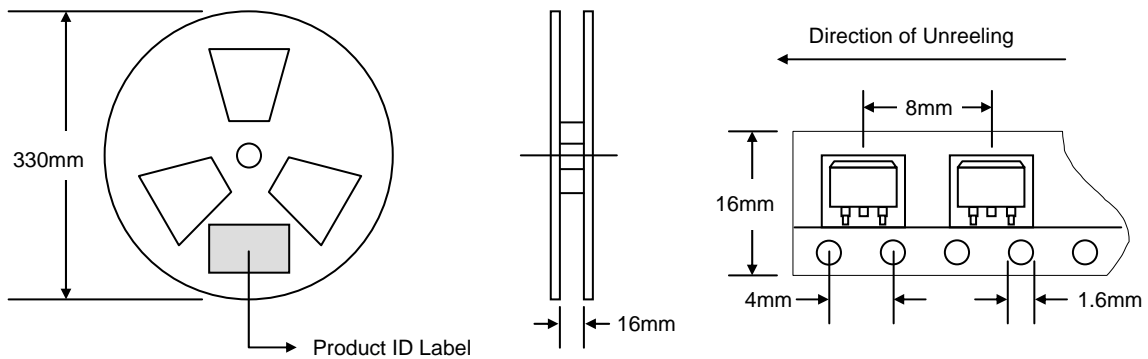
B10xxCT = Device Number
 xx = 20, 30, 40, 45, 50, 60, 80 or 100
 Polarity = As Marked on Body

RECOMMENDED FOOTPRINT



PACKAGING INFORMATION

TAPE & REEL




Reel Diameter (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
330	2,500	340 x 337 x 45	5,000	370 x 370 x 420	40,000	18.0

Note: 1. Paper reel, white or gray color.
 2. Components are packed in accordance with EIA standard 481-1 and 481-2.

ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
MBRD1020CT-T3	DPAK	2500/Tape & Reel
MBRD1030CT-T3	DPAK	2500/Tape & Reel
MBRD1040CT-T3	DPAK	2500/Tape & Reel
MBRD1045CT-T3	DPAK	2500/Tape & Reel
MBRD1050CT-T3	DPAK	2500/Tape & Reel
MBRD1060CT-T3	DPAK	2500/Tape & Reel
MBRD1080CT-T3	DPAK	2500/Tape & Reel
MBRD10100CT-T3	DPAK	2500/Tape & Reel

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, MBRD1020CT-T3-LF.**

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WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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We power your everyday.