



# MBR2040DC SERIES

## 20 AMPERES SCHOTTKY BARRIER RECTIFIERS

**VOLTAGE** 40 to 200 Volt **CURRENT** 20 Ampere

**TO-263 / D<sup>2</sup>PAK**

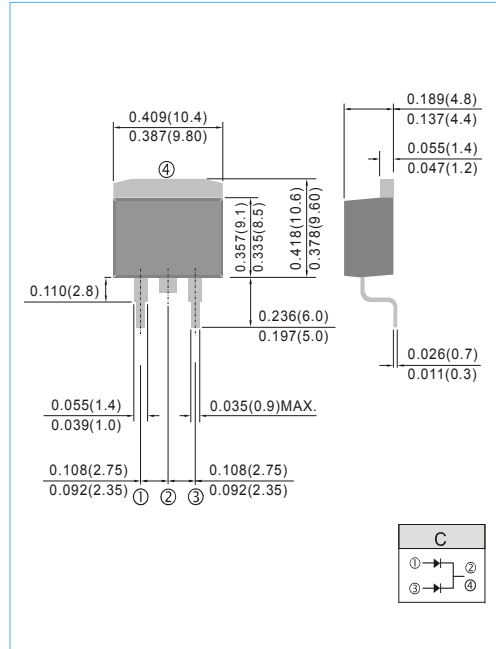
Unit : inch(mm)

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Low power loss, high efficiency.
- High current capability
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case: TO-263 / D<sup>2</sup>PAK molded plastic
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Weight: 0.049 ounces, 1.38 grams.



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

PARAMETER	SYMBOL	MBR2040DC	MBR2045DC	MBR2050DC	MBR2060DC	MBR2080DC	MBR2090DC	MBR20100DC	MBR20150DC	MBR20200DC	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	40	45	50	60	80	90	100	150	200	V
Maximum RMS Voltage	$V_{RMS}$	28	31.5	35	42	56	63	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	40	45	50	60	80	90	100	150	200	V
Maximum Average Forward Current (See fig.1)	$I_{F(AV)}$	20									A
Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	200									A
Maximum Forward Voltage at 10A, per leg	$V_F$	0.7	0.75		0.8			0.9			V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_c=25^\circ C$ $T_c=125^\circ C$	$I_R$					0.05		20			mA
Typical Thermal Resistance	$R_{\theta JC}$					2					$^\circ C / W$
Operating Junction Temperature Range	$T_J$					-50 to + 150					$^\circ C$
Storage Temperature Range	$T_{STG}$					-50 to + 150					$^\circ C$

Notes :

Both Bonding and Chip structure are available.



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## RATING AND CHARACTERISTIC CURVES

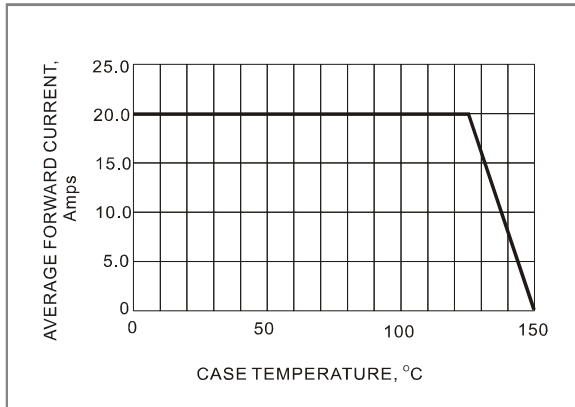


Fig.1- FORWARD CURRENT DERATING CURVE

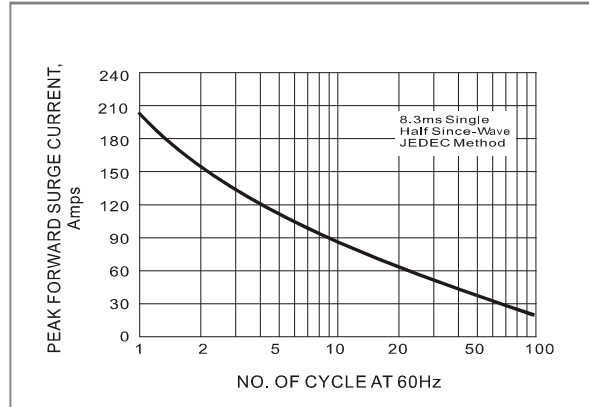


Fig.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

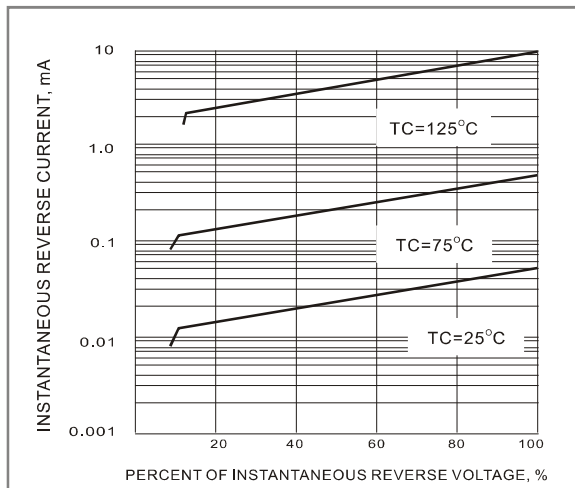


Fig.3- TYPICAL REVERSE CHARACTERISTICS

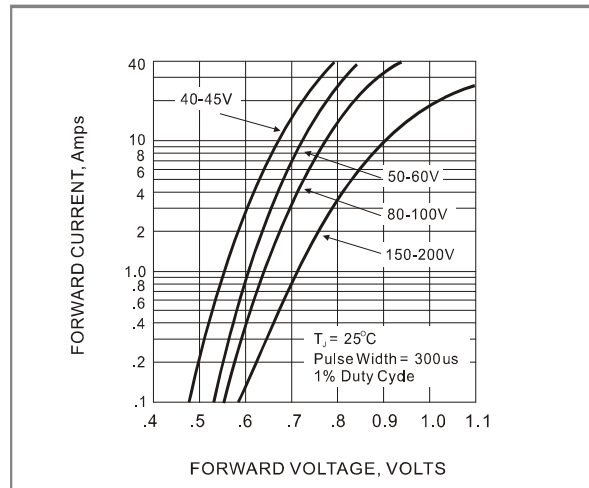


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

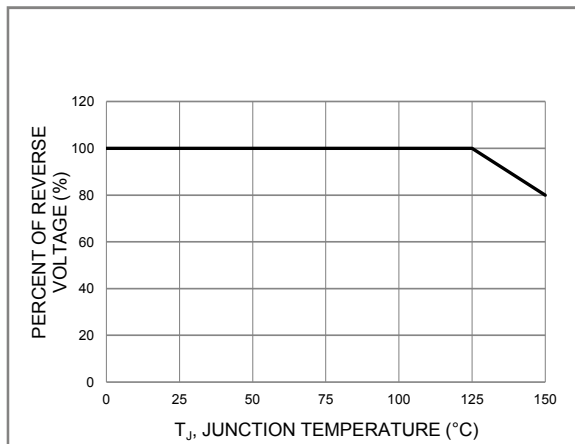
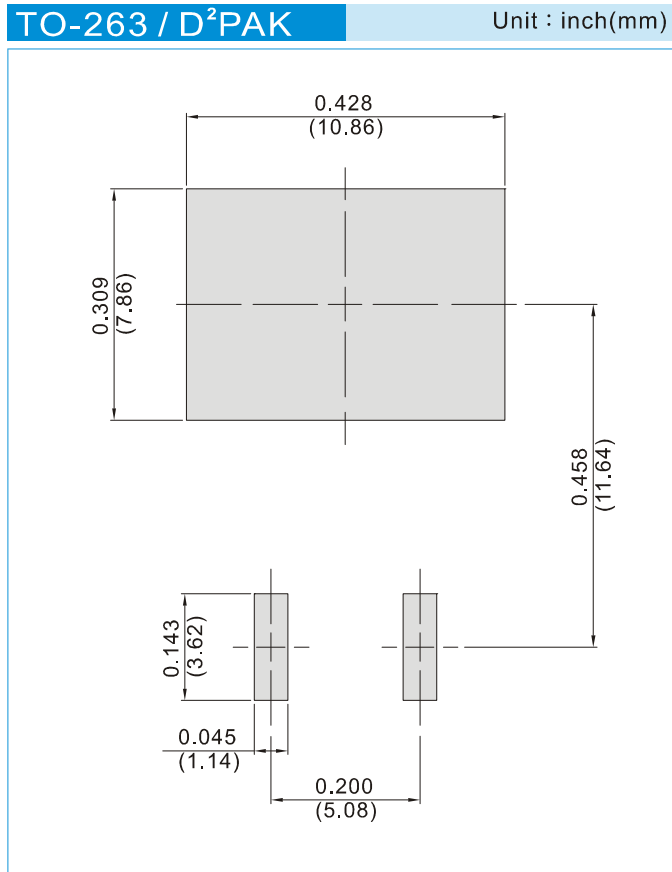


Fig.5- OPERATING TEMPERATURE DERATING CURVE



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information  
T/R - 0.8K per 13" plastic Reel



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Part No\_packing code\_Version

MBR2040DC\_R2\_00001

For example :

RB500V-40\_R2\_00001



Packing type	Packing Code <b>XX</b>			Version Code <b>XXXXX</b>		
	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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