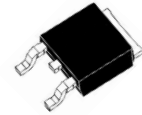


MBR2040CD-HF Thru. MBR20200CD-HF

Reverse Voltage: 40 to 200 V

Forward Current: 20 A

RoHS Device
Halogen Free

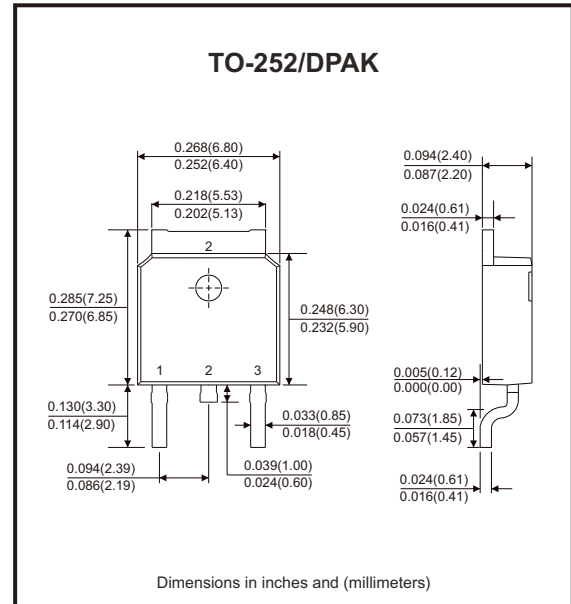


Features

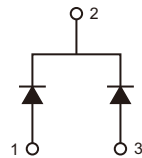
- Plastic package has underwrites laboratory flammability classification 94V-0. Flame retardant epoxy molding compound.
- Metal silicon junction, majority carrier conduction.
- Low power loss, high efficiency.
- High current capability.
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.

Mechanical data

- Case: TO-252/DPAK, molded plastic.
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026.
- Polarity: As marked.



Circuit Diagram



Maximum Ratings and Electrical Characteristics (at $T_A=25^{\circ}\text{C}$, unless otherwise specified)

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

Parameter	Symbol	MBR2040CD-HF	MBR2060CD-HF	MBR20100CD-HF	MBR20150CD-HF	MBR20200CD-HF	Unit
Max. recurrent peak reverse voltage	V_{RRM}	40	60	100	150	200	V
Max. RMS voltage	V_{RMS}	28	42	70	105	140	V
Max. DC blocking voltage	V_{DC}	40	60	100	150	200	V
Max. 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 (JEDEC Method)	I_{FSM}	150					A
Max. forward voltage at 10A per leg	V_F	0.7	0.8	0.85	0.92		V
Junction capacitance (Note 1)	C_J	700	500	400	300	250	pF
Max. DC reverse current at $T_J=25^{\circ}\text{C}$ Rated DC blocking voltage $T_J=125^{\circ}\text{C}$	I_R	0.05 20					mA
Typical thermal resistance	$R_{\theta JC}$	2					$^{\circ}\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-50 to +150			-55 to +175		$^{\circ}\text{C}$

Notes: 1. Measured at 1MHz and applied reverse voltage of 4VDC.

Rating and Characteristics Curves (MBR2040CD-HF Thru. MBR20200CD-HF)

Fig.1 - Forward Current Derating Curve

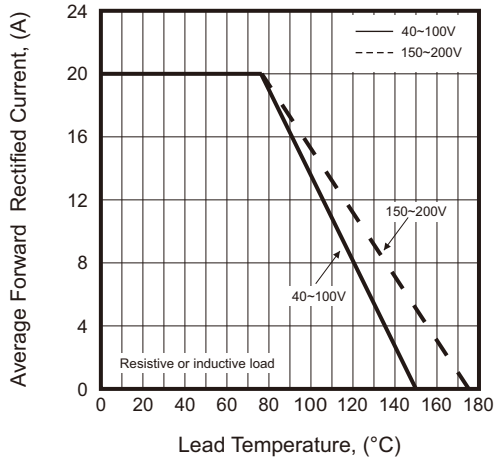


Fig.2 - Maximum Non-Repetitive Forward Surge Current

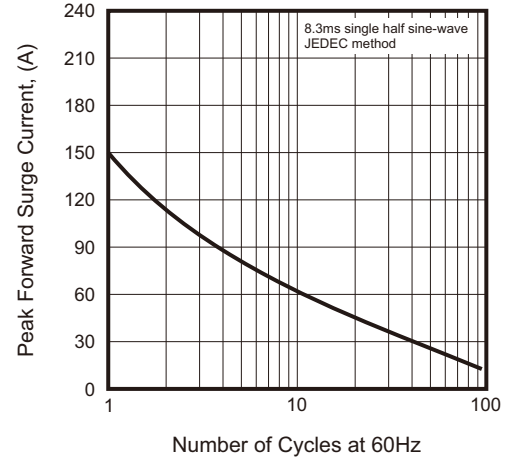


Fig.3 - Typical Reverse Characteristics

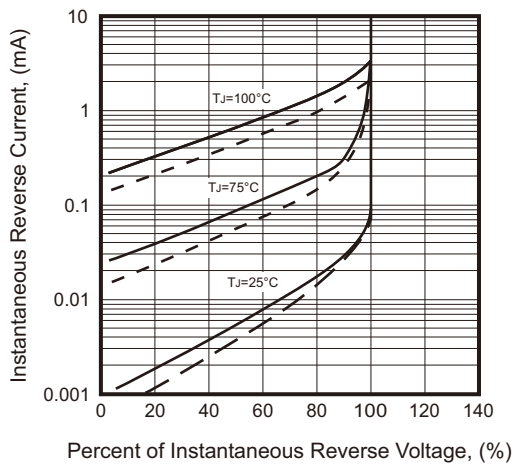
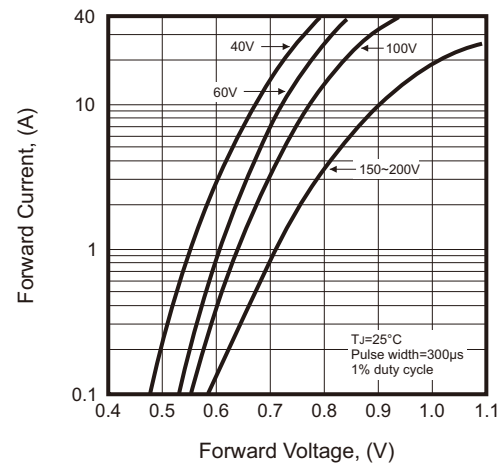
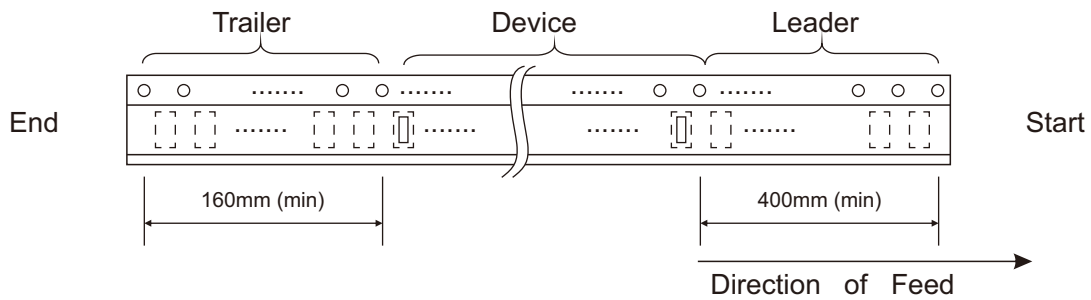
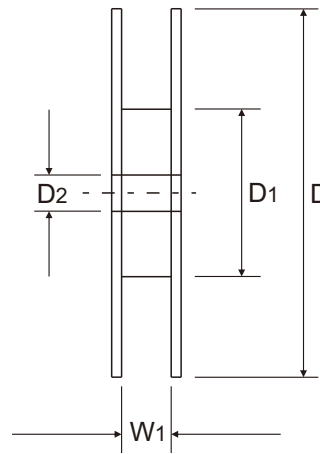
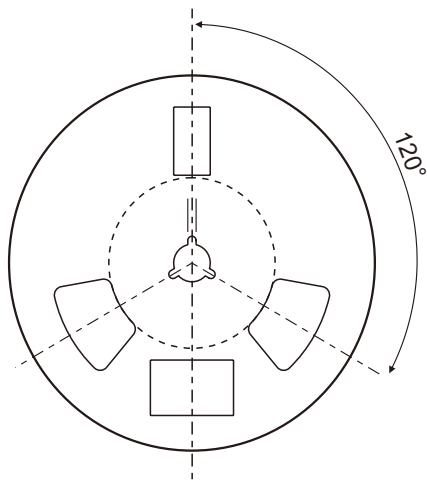
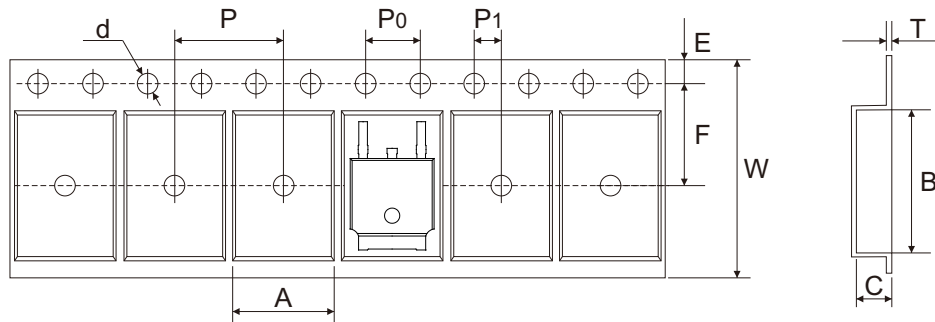


Fig.4 - Typical Instantaneous Forward Characteristics



Reel Taping Specification

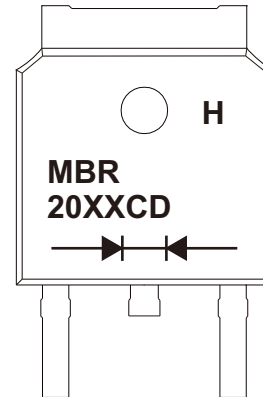


TO-252 /DPAK	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	6.90 ± 0.10	10.50 ± 0.10	2.65 ± 0.10	1.55 ± 0.05	330 ± 1.00	110 ± 2.00	13.00 ± 0.20
	(inch)	0.272 ± 0.004	0.413 ± 0.004	0.104 ± 0.004	0.061 ± 0.002	12.992 ± 0.039	4.331 ± 0.079	0.512 ± 0.008

TO-252 /DPAK	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	7.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.30 ± 0.05	16.00 + 0.10 - 0.20	16.80 ± 0.40
	(inch)	0.069 ± 0.004	0.295 ± 0.004	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.012 ± 0.002	0.630 + 0.004 - 0.008	0.661 ± 0.016

Marking Code

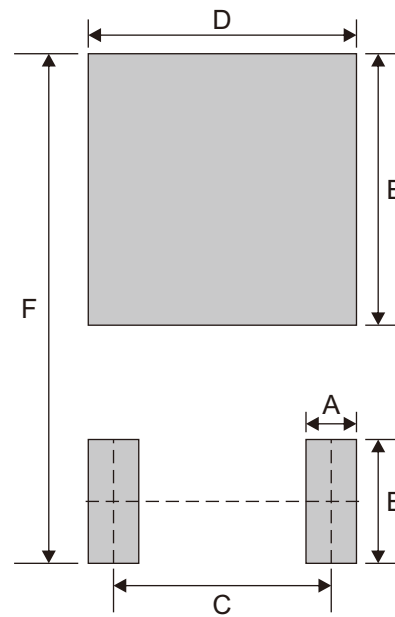
Part Number	Marking Code
MBR2040CD-HF	MBR2040CD
MBR2060CD-HF	MBR2060CD
MBR20100CD-HF	MBR20100CD
MBR20150CD-HF	MBR20150CD
MBR20200CD-HF	MBR20200CD



xx/xxx = Marking code

Suggested P.C.B. PAD Layout

SIZE	TO-252/DPAK	
	(mm)	(inch)
A	1.06	0.042
B	2.60	0.102
C	4.572	0.180
D	5.632	0.222
E	5.70	0.224
F	10.70	0.421



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
TO-252/DPAK	2,500	13