

FEATURES

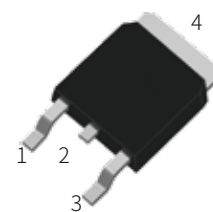
The plastic package carries Underwriters Laboratory

Flammability Classification 94V-0

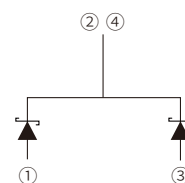
Construction utilizes void-free molded plastic technique

Low reverse leakage

High forward surge current capability



TO-252



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter		Symbol	MBR 2040DCT	MBR 2045DCT	MBR 2060DCT	MBR 20100DCT	MBR 20150DCT	MBR 20200DCT	Unit
Marking			MBR 2040	MBR 2045	MBR 2060	MBR 20100	MBR 20150	MBR 20200	
Maximum repetitive peak reverse voltage		V _{RRM}	40	45	60	100	150	200	V
Maximum RMS voltage		V _{RMS}	28	31.5	42	70	105	140	V
Maximum DC blocking voltage		V _{DC}	40	45	60	100	150	200	V
Maximum average forward rectified current at T _c =110°C	per device	I _{F(AV)}	20.0						A
	per diode		10.0						A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load		I _{FSM}	150.0						A
Maximum instantaneous forward voltage per diode at 10.0A		V _F	0.65		0.75	0.85	0.95		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T _A =25°C	I _R	0.5			0.05			mA
	T _A =100°C		50			10			mA
Typical Thermal Resistance		R _{θJC}	2.5						°C/W
Operating junction temperature range		T _J	-55 to +150						°C
Storage temperature range		T _{STG}	-55 to +150						°C

CHARACTERISTIC CURVES

Fig.1 Derating Curve Output Rectified Current

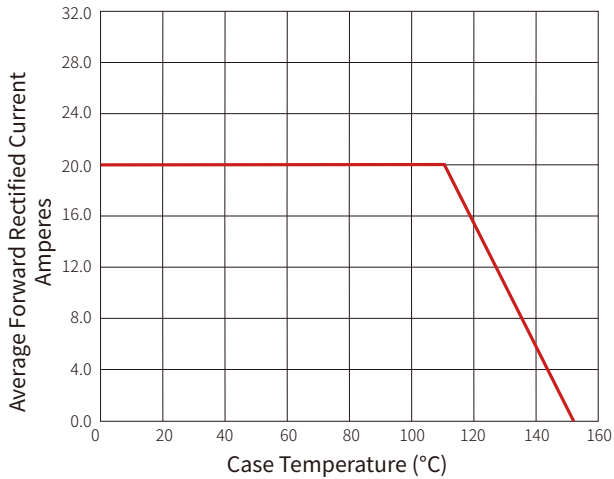


Fig.2 Maximum Non-repetitive Peak Forward Surge Current Perleg

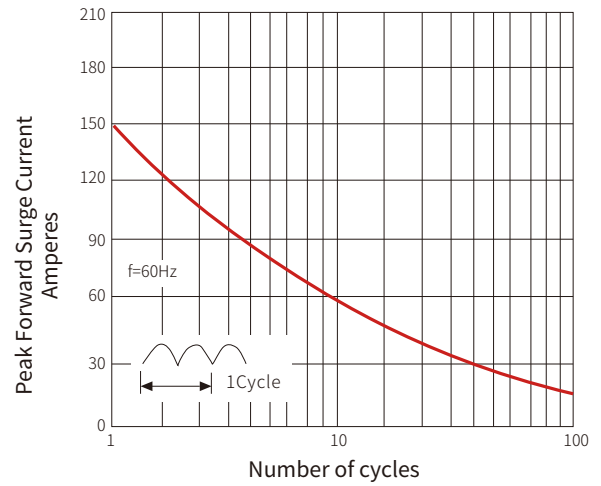


Fig.3 Typical Forward Voltage Characteristics

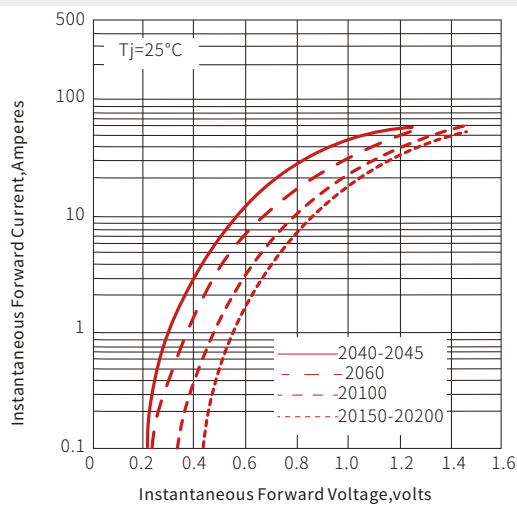
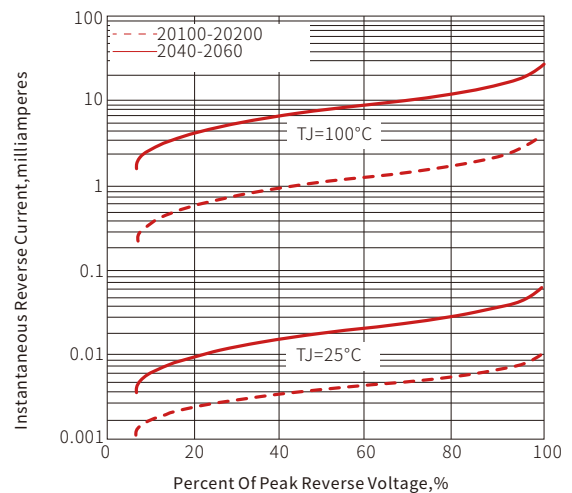
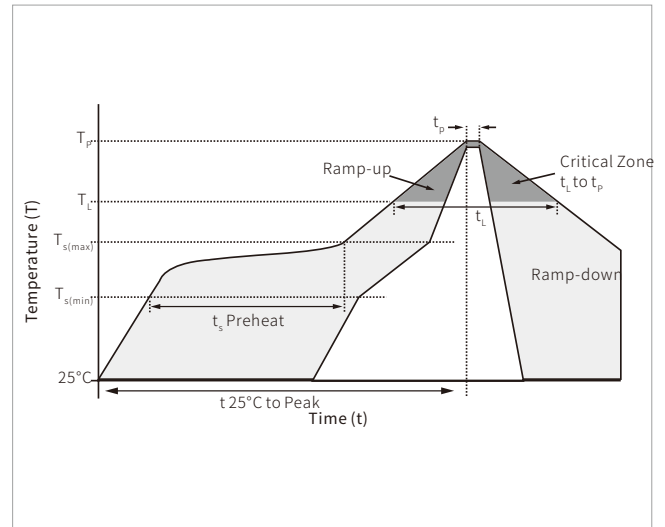


Fig.4 Typical Reverse Leakage Characteristics

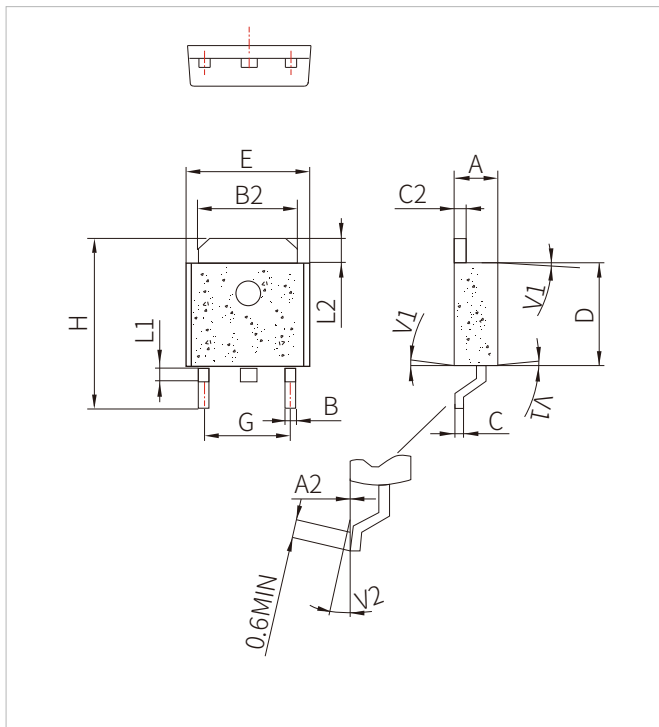


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C



TO-252 PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.80	0.252		0.268
G	4.40		4.70	0.173	0.1	0.185
H	9.35		10.7	0.368		0.421
L1	1.30		1.70	0.051	0.143	0.067
L2	1.37		1.50	0.054		0.059
L1		4°			0.130	
V2	0°		8°	0°		8°

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MBR2040DCT-MBR20200DCT	TO-252	2500PCS	13"

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By QR Code

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