



MBR2040CGD-MBR20200CGD

20.0 AMP Schottky Barrier Rectifier

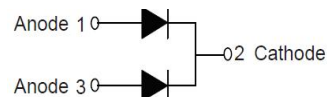
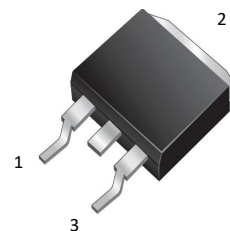
1. Features

- Metal silicon junction, majority carrier conduction.
- Low power loss, high efficiency.
- High current capability.
- High reliability.
- Guardring for overvoltage protection.
- RoHS Compliant.

2. Mechanical Data

- Case:Molded Plastic,TO263 .
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750,Method-2026.
- Marking:marked on body.
- Mounting Position : Any.

TO-263



3. Maximum Ratings and Electrical Characteristics

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	MBR 2040CGD	MBR 2045CGD	MBR 2060CGD	MBR 20100CGD	MBR 20150CGD	MBR 20200CGD	UNIT
Maximum Recurrent 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
Average Rectified Output Current @Tc=100℃	I _{F(AV)}	20.0						A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed @T _j =25℃ on rated load (JEDEC Method)	I _{FSM}	150						A
I ² t Rating for Fusing (t < 8.3ms)	I ² t	93.38						A
Maximum Instantaneous Forward Voltage @I _F =10A	V _{FM}	0.60		0.75	0.85	0.92		V
Maximum DC reverse current @T _j =25℃ at rated DC blocking voltage @T _j =125℃	I _R	0.05						mA
		20						
Typical Thermal Resistance	R _{θJC}	9						℃/W
Operating Temperature Range	T _j	-55 to+150						℃
Storage Temperature Range	T _{STG}	-55 to+150						℃



4. Rating And Characteristic Curves

Fig. 1 Forward Current Derating Curve

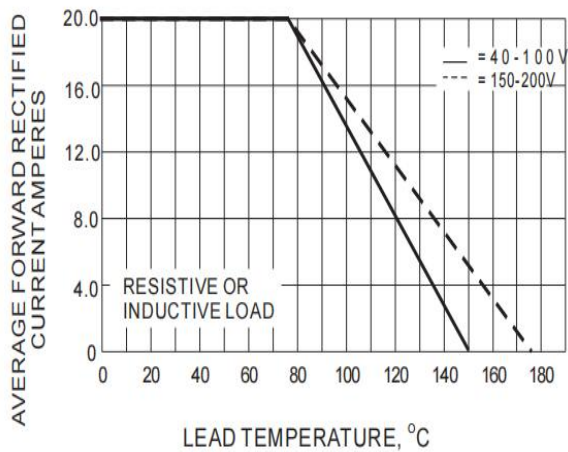


Fig. 2 Typical Forward Characteristics

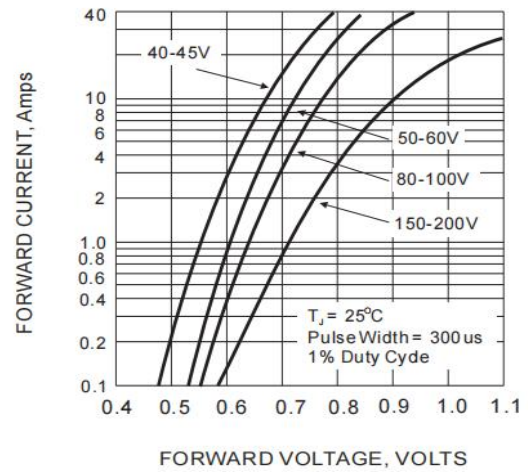


Fig. 3 Forward Surge Current Capability

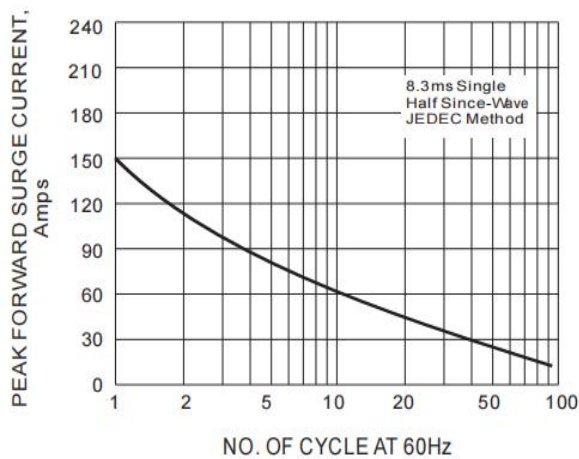
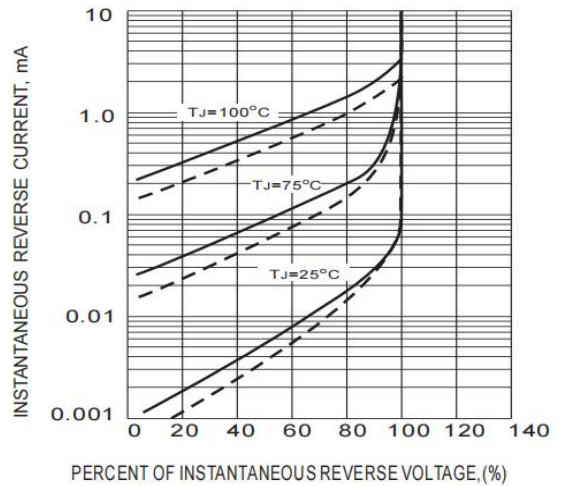
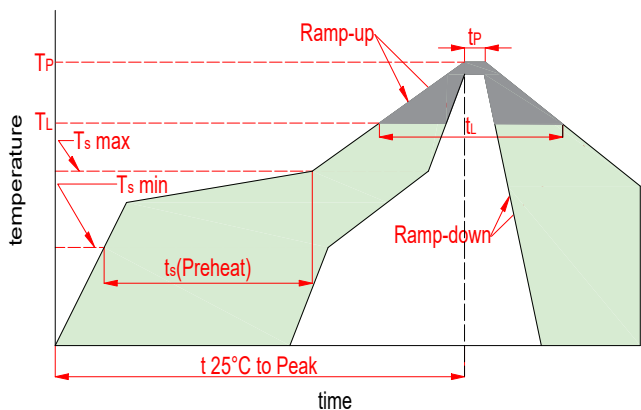


Fig. 4 Typical Reverse Characteristics



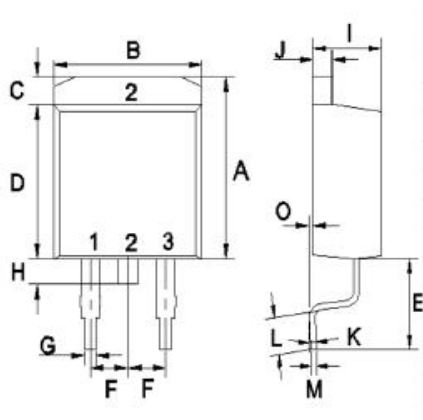


5. Soldering Parameters



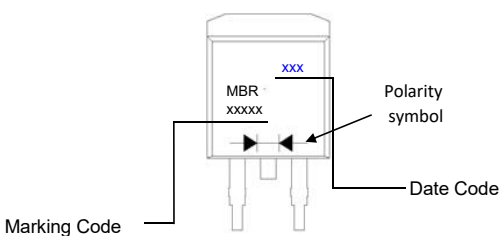
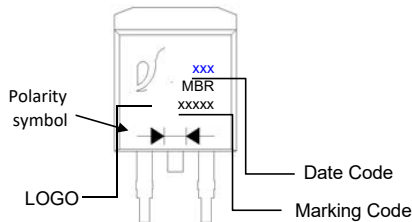
Reflow Condition		Lead-free
Pre Heat	Temp. min($T_s(\min)$)	150℃
	Temp. max($T_s(\min)$)	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
$T_s(\max)$ to T_L -Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		260 ^{+0/-5} ℃
Time within actual peak Temp.(t_p)		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.(T_P)		8 minutes max
Do not exceed		260℃

6. Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.411	0.427	10.44	10.84
B	0.386	0.402	9.81	10.21
C	0.057	0.072	1.44	1.84
D	0.346	0.362	8.80	9.20
E	0.176	0.183	4.46	4.66
F	0.096	0.104	2.44	2.64
G	0.024	0.040	0.61	1.01
H	0.028	0.051	0.70	1.30
I	0.168	0.192	4.27	4.87
J	0.042	0.058	1.07	1.47
K			0°	8°
L	0.083	0.098	2.10	2.50
M	0.012	0.018	0.30	0.46
O	0.000	0.010	0.00	0.25

7. Part Marking System



8. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)
		mm	inch	
TO263	24	330	13	800



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