

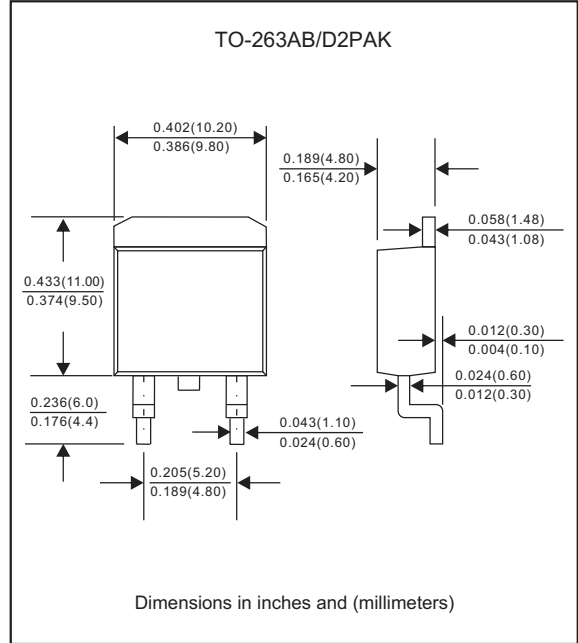
Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 / 228
- Compliant to Halogen-free

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, TO-263AB / D2PAK
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			20.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			150	A
Reverse current	$V_R = V_{RRM} T_J = 25^\circ\text{C}$	I_R			0.5	mA
	$V_R = V_{RRM} T_J = 125^\circ\text{C}$				50	
Thermal resistance (1)	Junction to case	$R_{\theta JC}$		3		$^\circ\text{C}/\text{W}$
Storage temperature		T_{STG}	-55		+150	$^\circ\text{C}$

NOTE : (1) Device mounted on additional heatsink, (50mm x 50mm x 23mm Al heatsink).

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature T_J , ($^\circ\text{C}$)
MBR2040CG	40	28	40	0.70	-55 to +150
MBR2045CG	45	31.5	45		
MBR2050CG	50	35	50	0.80	
MBR2060CG	60	42	60		
MBR2080CG	80	56	80	0.85	
MBR20100CG	100	70	100		
MBR20150CG	150	105	150	0.92	
MBR20200CG	200	140	200		

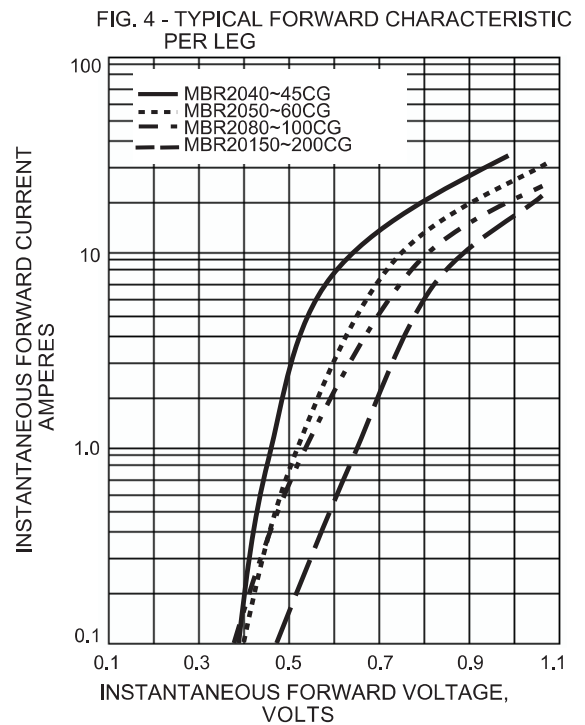
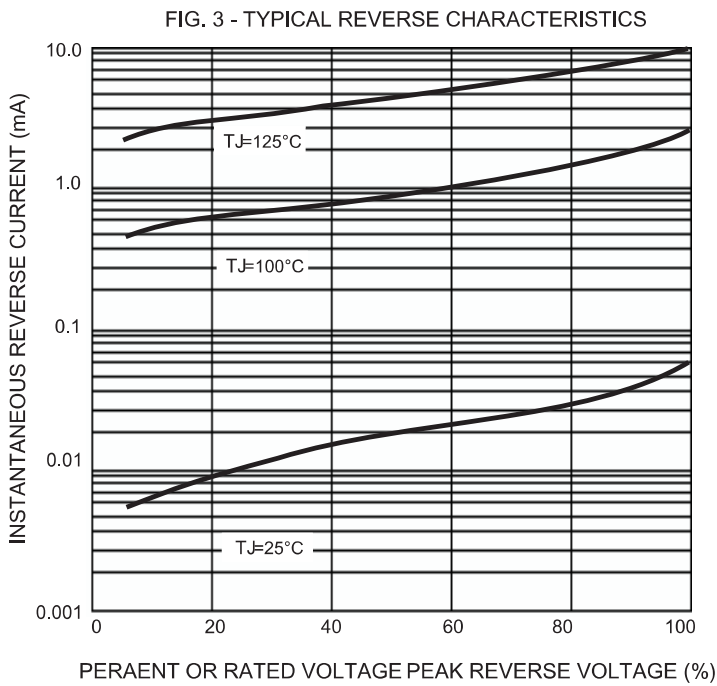
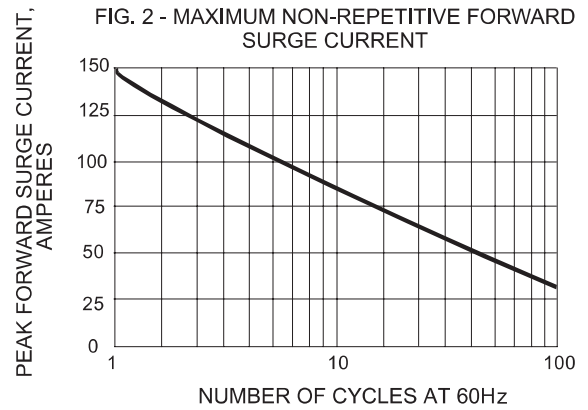
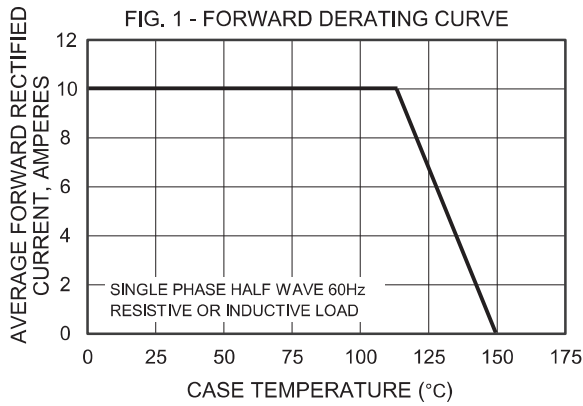
*1 Repetitive peak reverse voltage

*2 RMS voltage

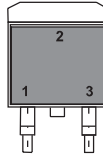
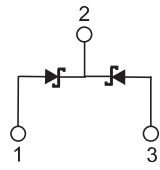
*3 Continuous reverse voltage

*4 Maximum forward voltage
 $I_F = 10.0\text{A}$, 25°C

Rating and characteristic curves (MBR2040CG THRU MBR2020CG)



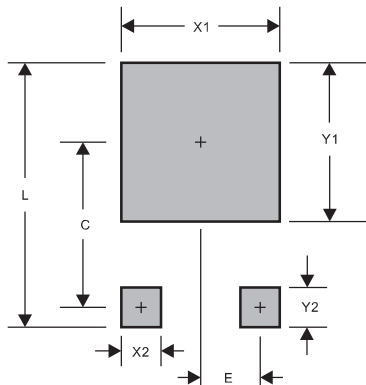
Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2 cathode Pin3 anode		

Marking

Type number	Marking code
MBR2040CG	MBR2040CG
MBR2045CG	MBR2045CG
MBR2050CG	MBR2050CG
MBR2060CG	MBR2060CG
MBR2080CG	MBR2080CG
MBR20100CG	MBR20100CG
MBR20150CG	MBR20150CG
MBR20200CG	MBR20200CG

Suggested solder pad layout



PACKAGE	D2PAK
C	0.374(9.50)
E	0.098(2.50)
L	0.665(16.90)
X1	0.425(10.80)
X2	0.071(1.80)
Y1	0.449(11.40)
Y2	0.138(3.50)

Dimensions in inches and (millimeters)