

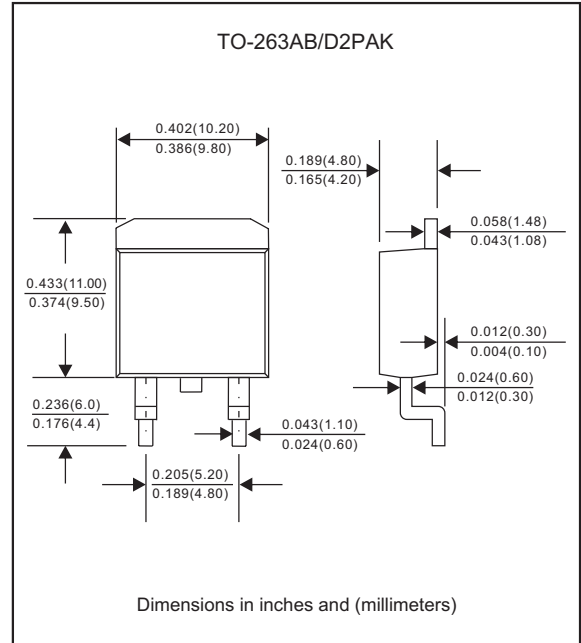
Features

- 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			40.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			200	A
Reverse current	$V_R = V_{RRM} T_J = 25^\circ\text{C}$	I_R			0.1	mA
	$V_R = V_{RRM} T_J = 125^\circ\text{C}$				20	
Thermal resistance	Junction to case	$R_{\theta JC}$		1.6		$^\circ\text{C/W}$
Storage temperature		T_{STG}	-65		+175	$^\circ\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature $T_J, (^\circ\text{C})$
MBR4040CG	40	28	40	0.70	-55 to +150
MBR4045CG	45	31.5	45		
MBR4050CG	50	35	50	0.80	
MBR4060CG	60	42	60		
MBR4080CG	80	56	80	0.88	-55 to +175
MBR40100CG	100	70	100		
MBR40150CG	150	105	150	0.92	
MBR40200CG	200	140	200		

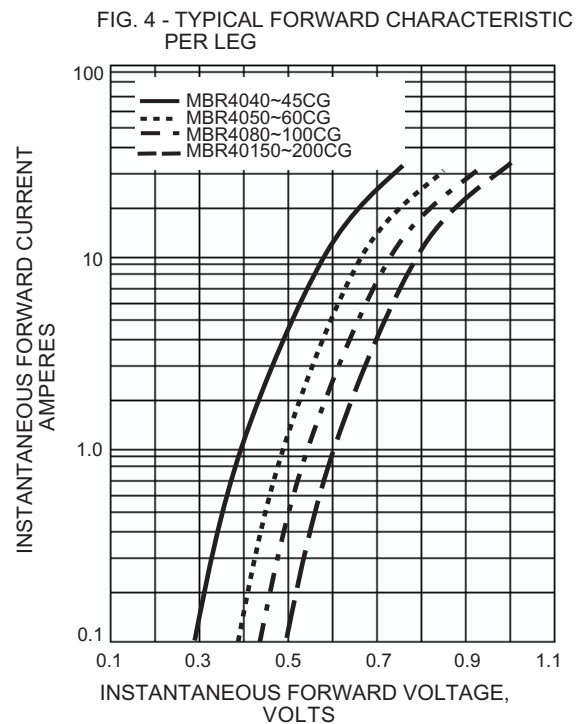
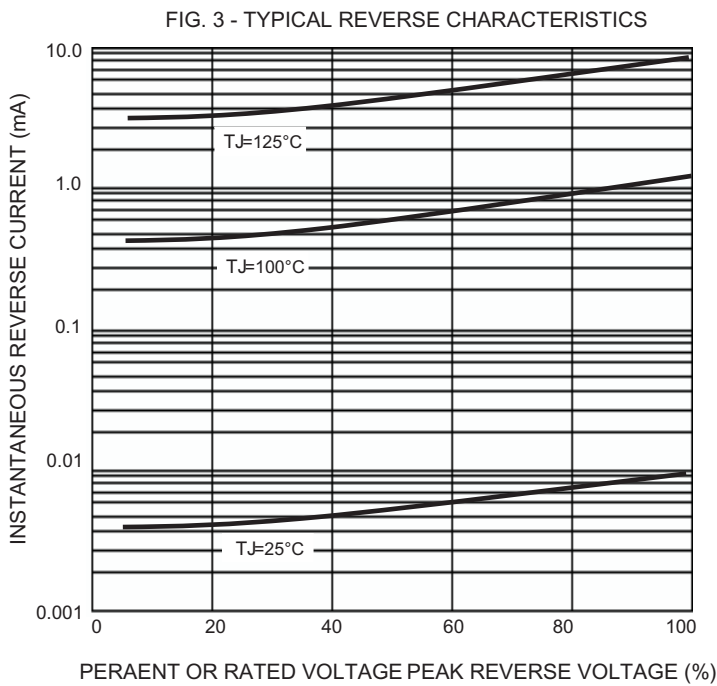
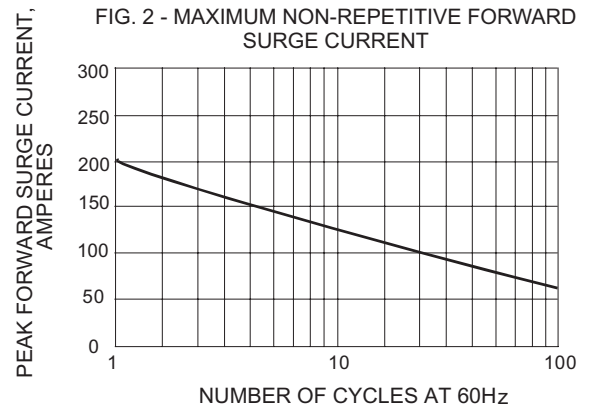
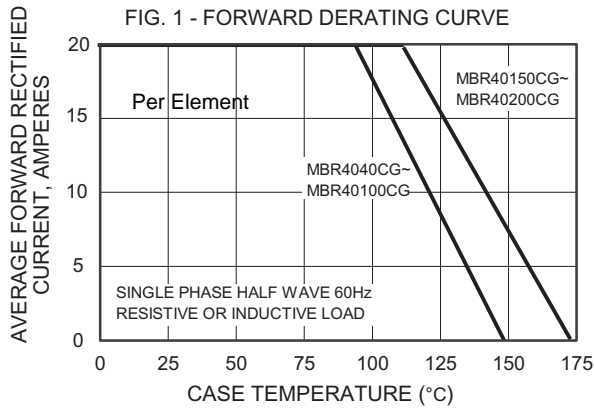
*1 Repetitive peak reverse voltage

*2 RMS voltage

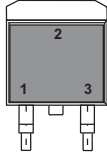
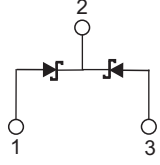
*3 Continuous reverse voltage

*4 Maximum forward voltage
 $I_F = 20.0\text{A}, 25^\circ\text{C}$

Rating and characteristic curves (MBR4040CG THRU MBR40200CG)



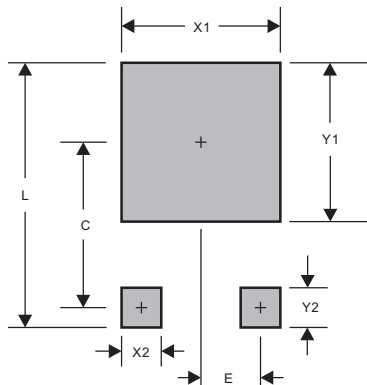
Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2 cathode Pin3 anode		

Marking

Type number	Marking code
MBR4040CG	MBR4040CG
MBR4045CG	MBR4045CG
MBR4050CG	MBR4050CG
MBR4060CG	MBR4060CG
MBR4080CG	MBR4080CG
MBR40100CG	MBR40100CG
MBR40150CG	MBR40150CG
MBR40200CG	MBR40200CG

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)