

Schottky Rectifier

**$I_{F(Total)} = 30\text{ A}$
 $V_R = 100\text{ V}$
 $V_F = 0.85\text{ V}$**

Description/ Features

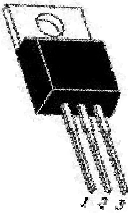
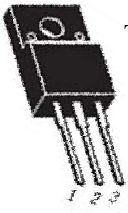
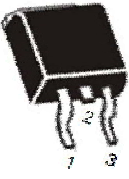
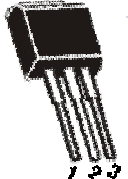
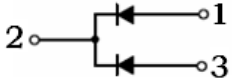
This low cost Schottky rectifier has been optimized for low reverse leakage at high temperature. The proprietary barrier technology allows for reliable operation up to 150°C junction temperature. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.

- 150°C T_j operation
- Low Power Loss, High Efficiency
- Low forward voltage drop
- High surge capacity
- Lead Free Finish/ROHS Compliant(Note 1)

Major Ratings and Characteristics

Characteristics	Values	Units
I _{F(Total)}	30	A
I _{FSM}	275	A
V _R	100	V
V _F	0.85	V
T _J	150	°C
T storage	-65 ~ 150	°C

Case Styles

 TO-220	 TO-220F	 TO-263	 TO-262
		1、 ANODE 2、 CATHODE 3、 ANODE	

Ordering Information

Part Number	Package	Packaging
MBR30100CT	TO-220	Tube
MBR30100FCT	TO-220F	Tube
MBR30100LCT	TO-263	Tube & Reel
MBR30100NCT	TO-262	Tube

MBR30100CT MBR30100FCT
MBR30100LCT MBR30100NCT

Electrical Characteristics(Tamb=25°C)

Characteristic	Symbol	MBR30100		Unit
Peak Repetitive Reverse Voltage	V_{RRM}	100		V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
Average Rectifier Output Current	$I_{F(per\ leg)}$	15		A
	$I_{F(Totol)}$	30		
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase,60Hz)	I_{FSM}	275		A
Maximum Instantaneous Forward Voltage @ $I_F=15A, T_c=25^\circ C$ @ $I_F=15A, T_c=125^\circ C$	V_F	0.85 0.75	V	
Peak Reverse Current @ $T_c=25^\circ C$ at Rated DC Blocking Voltage @ $T_c=125^\circ C$	I_R	0.1 6	mA	
Maximum Operating Junction Temperature	T_j	-65~150		°C
Storage Temperature	T_{STG}	-65~150		
Maximum Thermal Resistance	θ_{JC}	TO-220	2.5	°C/W
		TO-220F	4.5	
		TO-262/263	2.5	
	θ_{JA}	TO-220	60	
		TO-220F	60	
		TO-262/263	60	

Notes:1.High Temperature Solder Exemption Applied, See EU Directive Annex 7.



Characteristics Curve

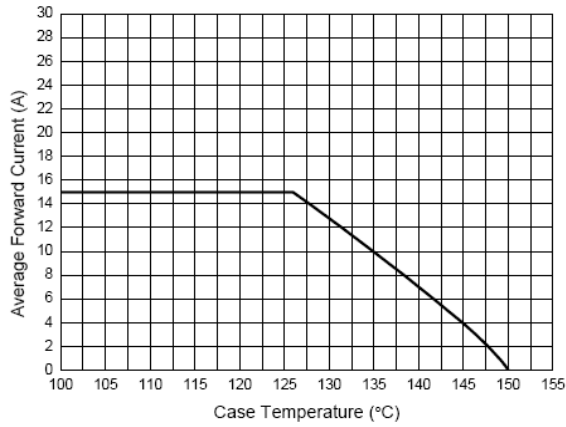


Figure 1. Forward Current Derating Curve

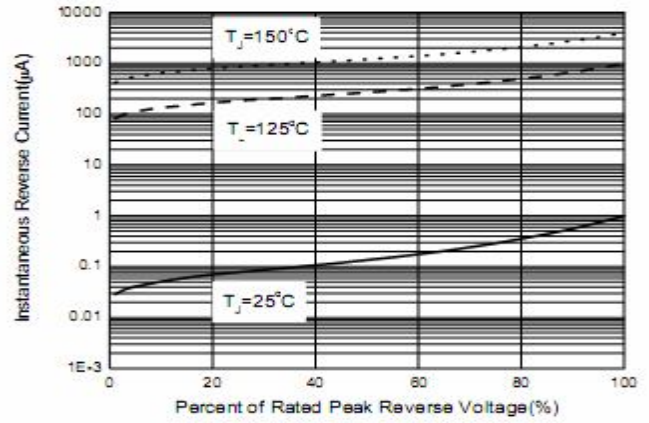


Figure 2. Typical Reverse Current per Diode

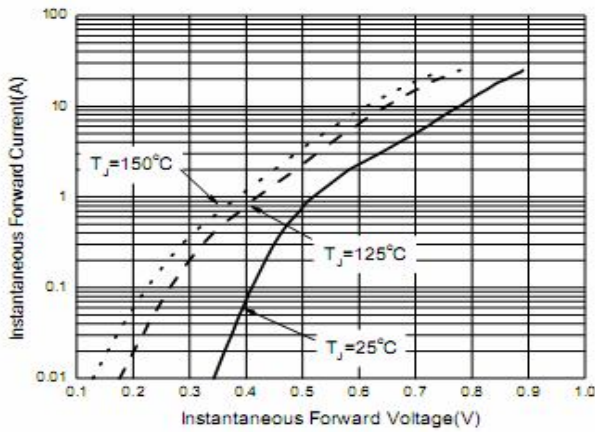


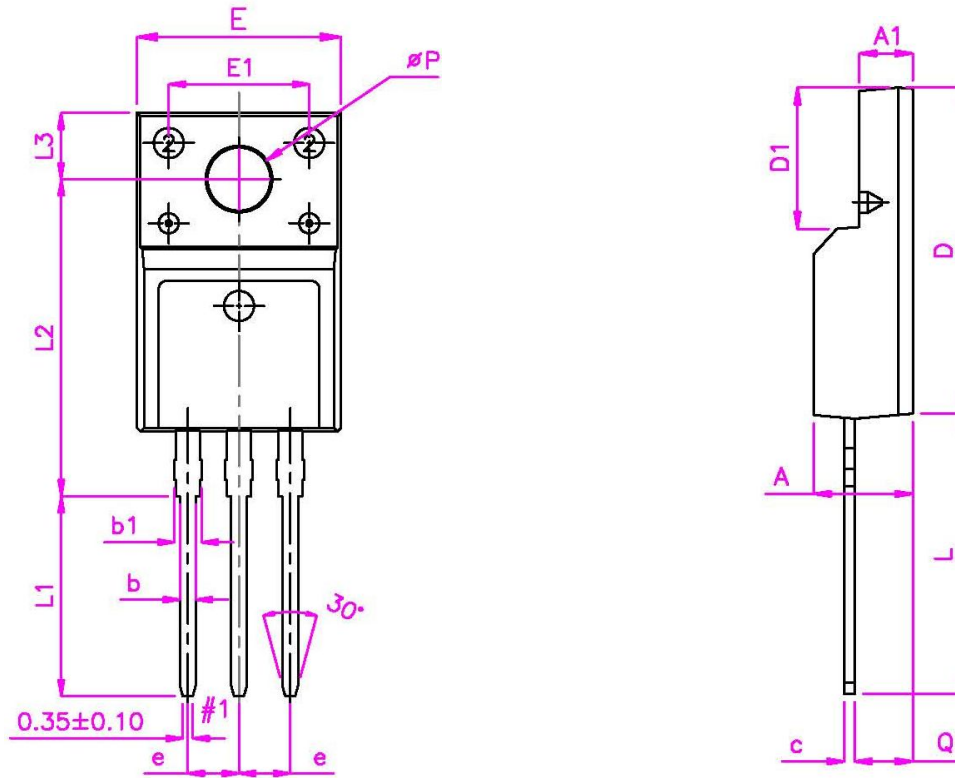
Figure 3. Typical Forward Voltage per Diode

MBR30100CT MBR30100FCT
MBR30100LCT MBR30100NCT

TO-220F Mechanical Data

UNIT.: mm

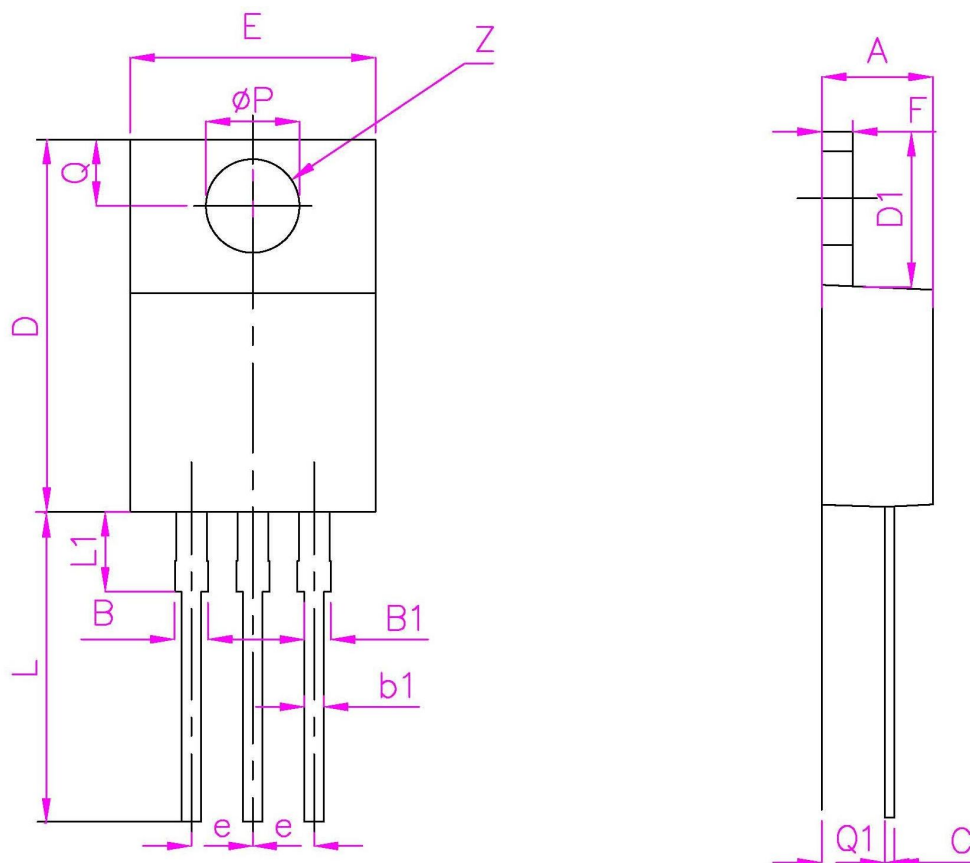
Symbol	MIN.	NOM.	MAX.	Symbol	MIN.	NOM.	MAX.
A	4.2	-	4.70	E1	-	7.0	-
A1	2.30	-	2.90	e	-	2.54	-
b	0.45	-	0.9	L	12.5	-	14.3
b1	1.1	-	1.7	L1	9.45	-	10.05
c	0.35	-	0.9	L2	15	-	16
D	14.5	-	17	L3	3.2	-	4.4
D1	6.10	-	9.0	ΦP	3.0	-	3.3
E	9.6	-	10.3	Q	2.5	-	2.90



TO-220 Mechanical Data

UNIT.: mm

Symbol	MIN.	NOM.	MAX.	Symbol	MIN.	NOM.	MAX.
A	4.0	-	4.80	E	9.90	-	10.70
B	1.20	-	1.40	e	-	2.54	-
B1	1.0	-	1.30	F	1.10	-	1.40
b1	0.65	-	1.00	L	12.50	-	14.50
c	0.40	-	0.55	L1	3.00	3.50	4.00
D	15.0	-	16.5	Q	2.50	-	3.00
D1	5.90	-	6.90	Q1	2.00	-	2.90
				P	-	3.80	-

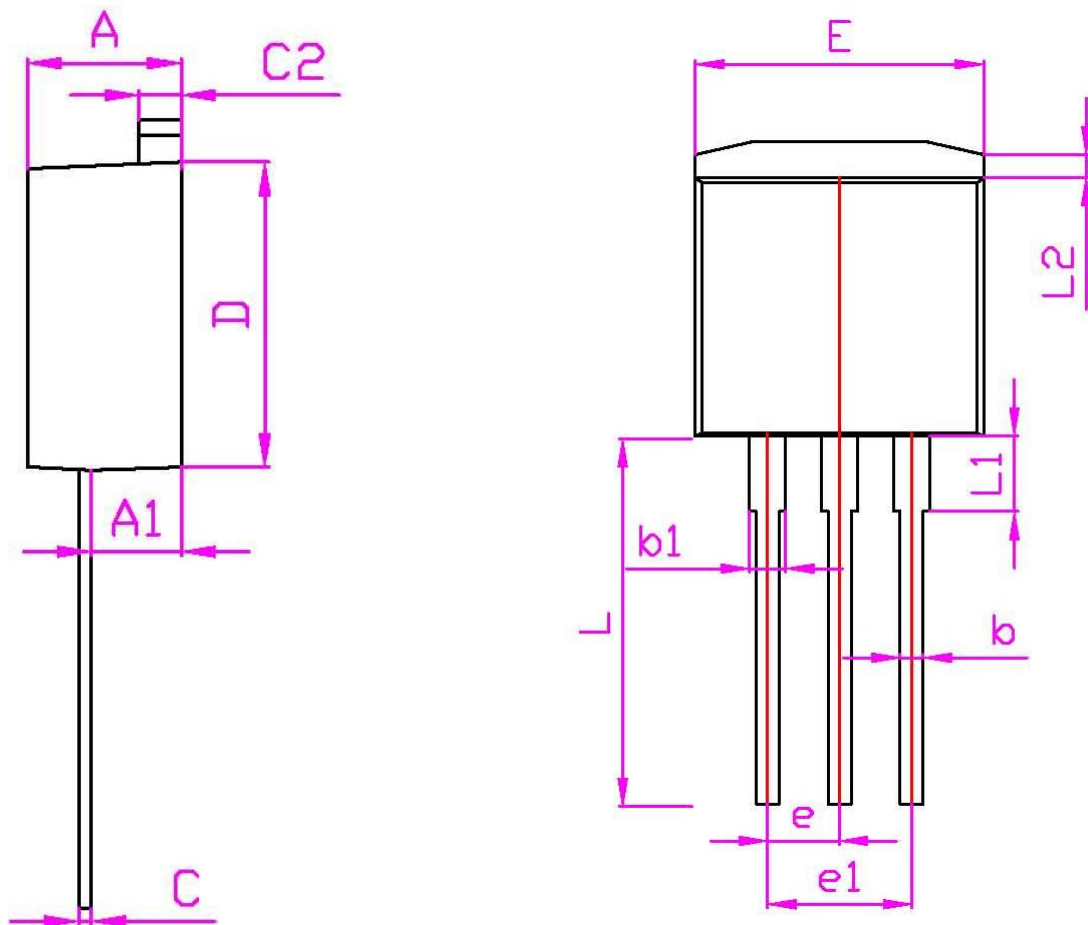


MBR30100CT MBR30100FCT
MBR30100LCT MBR30100NCT

TO-262 Mechanical Data

UNIT.: mm

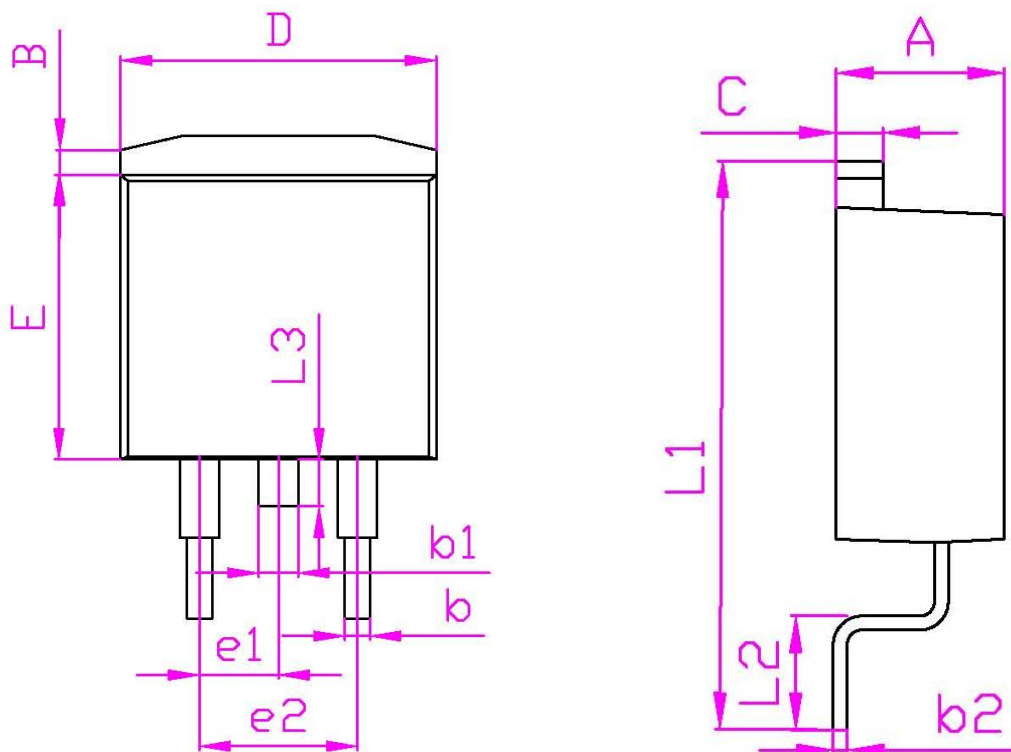
Symbol	MIN.	NOM.	MAX.	Symbol	MIN.	NOM.	MAX.
A	3.80	-	4.80	e	-	2.54	-
A1	2.00	-	2.80	e1	-	-	5.30
b	0.60	-	1.00	E	9.90	-	10.70
b1	1.20	-	1.40	L	12.50	-	14.50
c	0.40	-	0.70	L1	3.00	3.50	4.00
c2	1.10	-	1.40	L2	-	-	1.50
D		-	9.60	-	-	-	-



TO-263 Mechanical Data

UNIT.: mm

Symbol	MIN.	NOM.	MAX.	Symbol	MIN.	NOM.	MAX.
A	4.42	-	4.72	E	8.99	-	9.29
B	1.22	-	1.32	e1	2.44	-	2.64
b	0.76	-	0.86	e2	4.98	-	5.18
b1	1.22	-	1.32	L1	15.19	-	15.79
b2	0.33	-	0.43	L2	1.94	-	2.19
c	1.22	-	1.32	L3	-	-	-
D	9.95	-	10.25	-	-	-	-



Data and specifications subject to change without notice.

This product has been designed and qualified for Industrial Level and Lead-Free.

Qualification Standards can be found on GS's Web site.

Global Semiconductor HEADQUARTERS:

Scotia Centre, 4th Floor, P.O.Box 2804, George Town, Grand Cayman KY1-1112, Cayman

Visit us at www.globalsemi-group.com for sales contact information.