

$$I_{F(Total)} = 10 \text{ A}$$

$$V_R = 45 \text{ V}$$

$$V_F = 0.46 \text{ V}$$

Major Ratings and Characteristics

Characteristics	Values	Units
$I_{F(Total)}$	10	A
I_{FSM}	200	A
V_R	45	V
V_F	0.46	V
T_J	150	°C
T storage	-65 ~ 150	°C

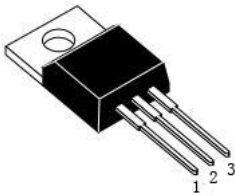
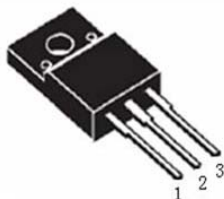
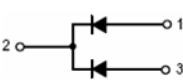
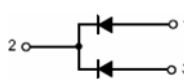
Ultra Low VF Schottky Rectifier

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
- Ultra Low forward voltage drop
- High surge capacity
- Lead Free Finish/ROHS Compliant(Note 1)

Case Styles

Case Styles	
 TO-220	 TO-220F
 1、ANODE 2、CATHODE 3、ANODE	 1、ANODE 2、CATHODE 3、ANODE

Ordering Information

Part Number	Package	Packaging
SBR10U45CT	TO-220	Tube
SBR10U45FCT	TO-220F	Tube

SBR10U45CT

SBR10U45FCT

Electrical Characteristics(Tamb=25℃)

Characteristic	Symbol	Value		Unit
Peak Repetitive Reverse Voltage	V _{RRM}	45		V
Working Peak Reverse Voltage	V _{RWM}			
DC Blocking Voltage	V _R			
Average Rectifier Output Current	I _{F(per leg)}	5		A
	I _{F(Totel)}	10		
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase,60Hz)	I _{FSM}	200		A
Maximum Instantaneous Forward Voltage @I _F =3A, Tc=25℃ @I _F =5A, Tc=25℃ @I _F =3A, Tc=125℃ @I _F =5A, Tc=125℃	V _F	0.42 0.46 0.32 0.38		V
Peak Reverse Current @Tc=25℃ at Rated DC Blocking Voltage @Tc=125℃	I _R	0.2 50		mA
Maximum Operating Junction Temperature	T _j	-65~150		℃
Storage Temperature	T _{STG}	-65~150		
Maximum Thermal Resistance	θ _{JC}	TO-220	2.2	℃/W
		TO-220F	4.5	
	θ _{JA}	TO-220	60	
		TO-220F	60	

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



Characteristics Curve

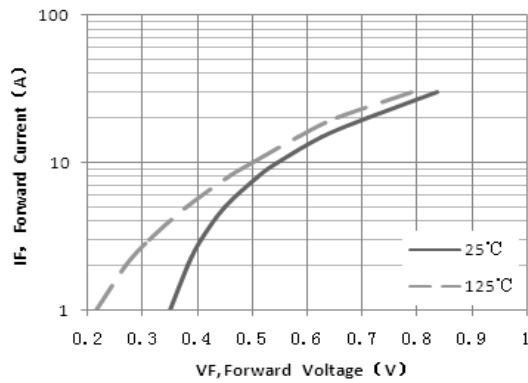


Fig.1 Typical Forward Voltage Per Diode

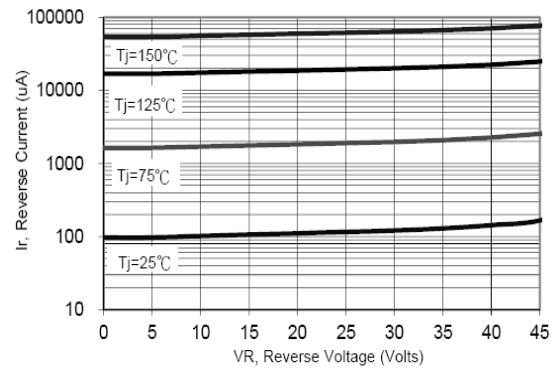


Fig.2 Typical Reverse Current Per Diode

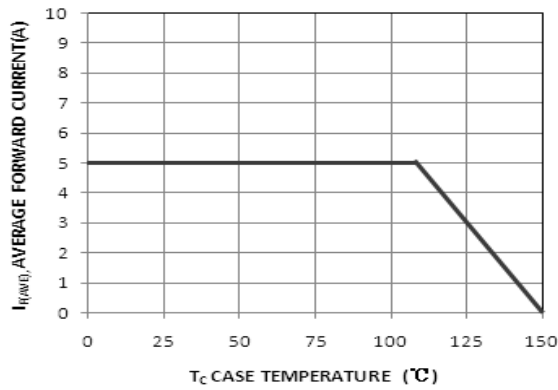
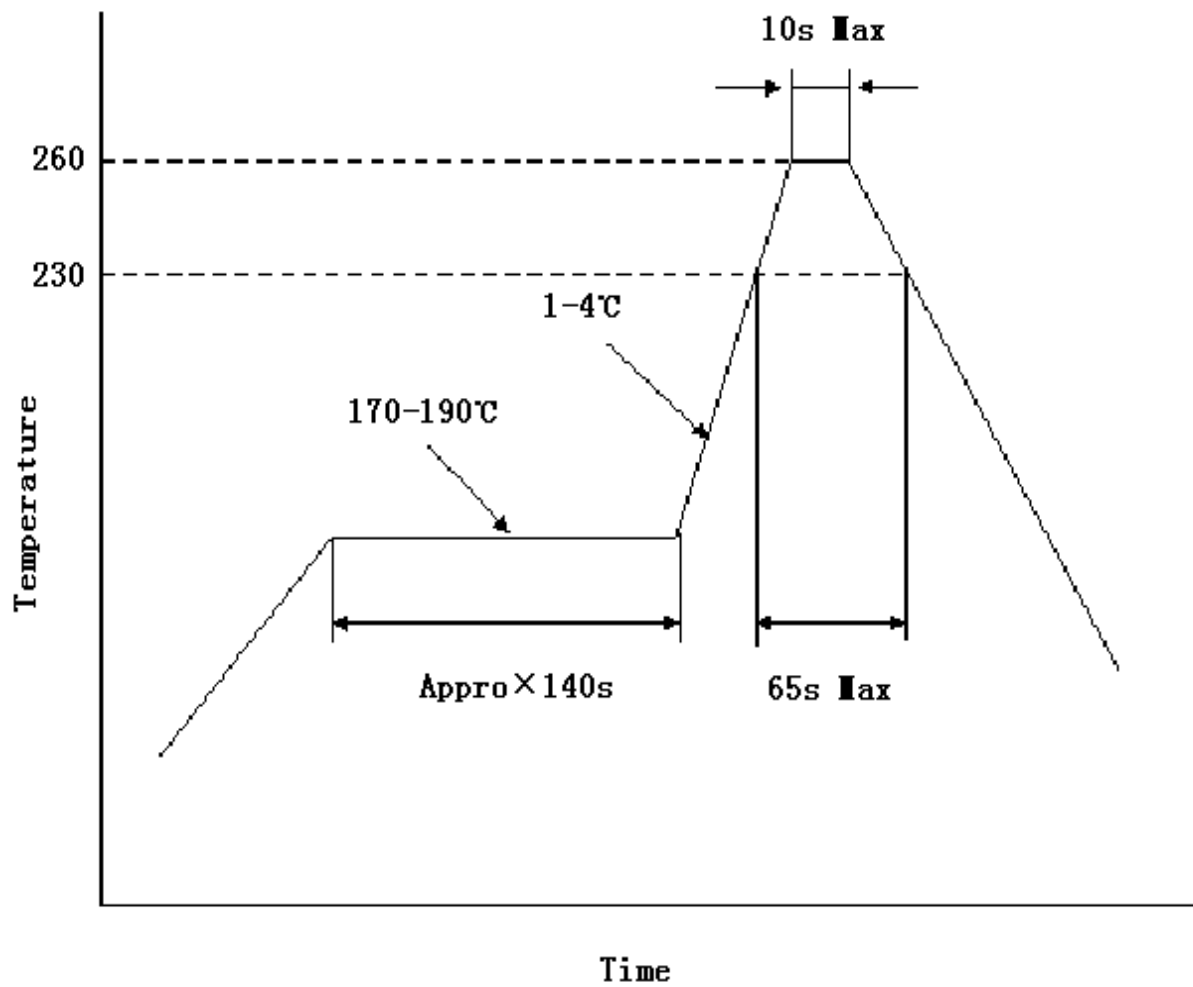


Fig.3 Average Forward Current VS Case Temperature Per Diode

SBR10U45CT
SBR10U45FCT

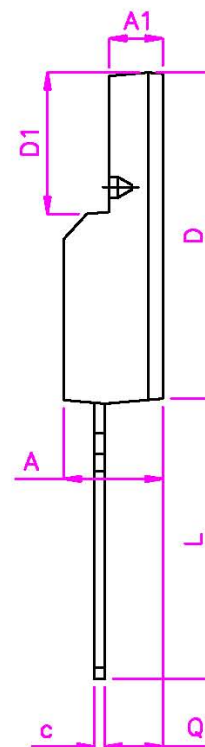
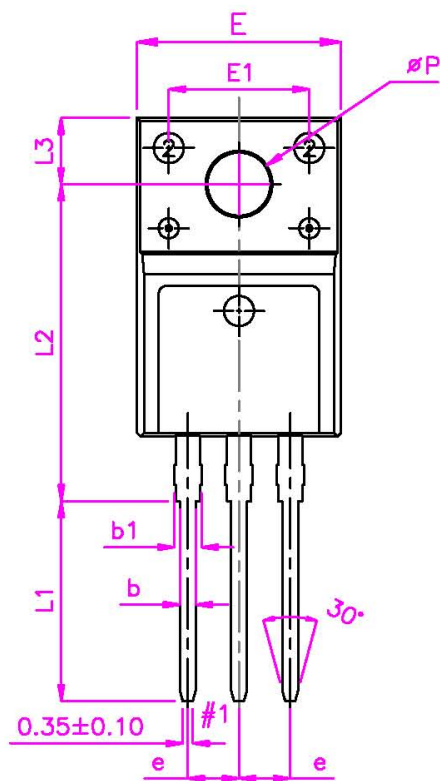
Reflow Soldering Temperature Profile



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

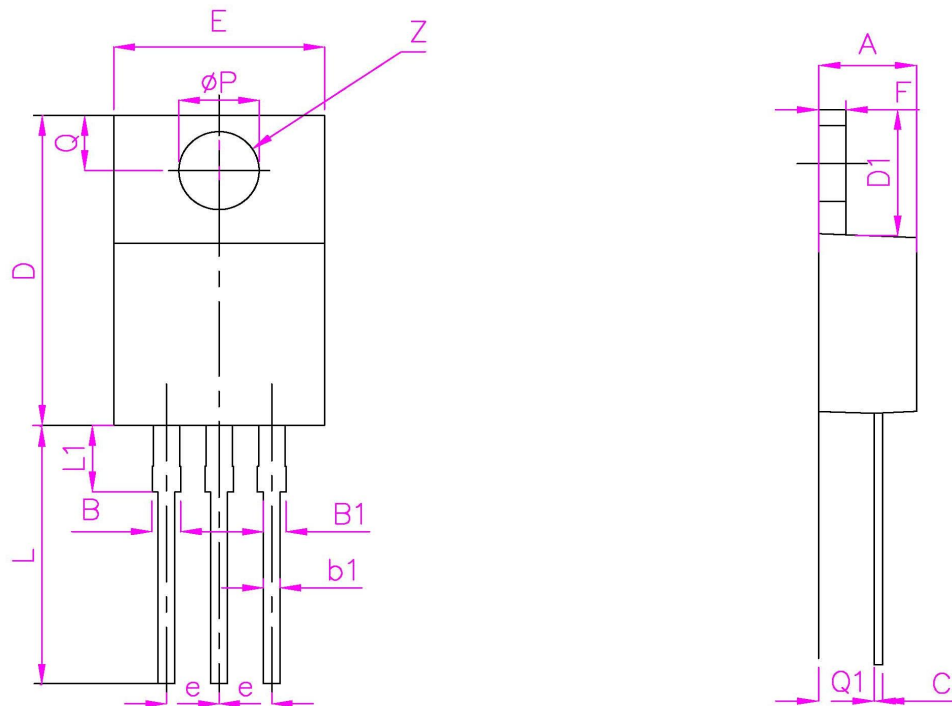


SBR10U45CT
SBR10U45FCT

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	-



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.

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