

VOLTAGE RANGE

100 Volts

CURRENT

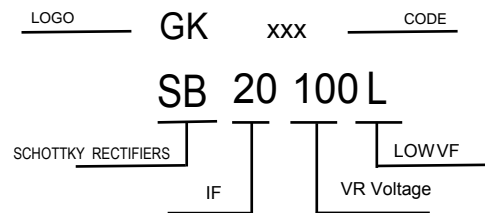
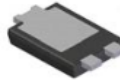
20.0 Ampere

FEATURES

- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Suffix "G" indicates Halogen-free part, ex. CP10S45SG
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

MECHANICAL DATA

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, TO-277.
- Lead : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position : Any.



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

TYPE NUMBER	SB20100L	UNITS
Maximum Recurrent Peak Reverse Voltage	100	V
Maximum RMS Voltage	70	V
Maximum DC Blocking Voltage	100	V
Maximum Average Forward Rectified Current		
See Fig. 1	20.0	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	200	A
Maximum Instantaneous Forward Voltage at 20.0A	0.7(0.63 TYP)	V
Maximum DC Reverse Current Ta=25°C	0.1	mA
at Rated DC Blocking Voltage Ta=125°C	20	mA
Typical Junction Capacitance (Note1)	600	pF
Typical Thermal Resistance R _{JA} (Note 2)	60	°C/W
Operating Temperature Range T _J	-55 to +150	°C
Storage Temperature Range T _{STG}	-55 to +150	°C

Note : 1.FR-4 PCB, 2oz.Copper.

2.Polyimide PCB, 2oz.Copper.Cathode pad dimensions 18.8mm x 14.4mm.Anode pad dimensions 5.6mm x 14.4mm.

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

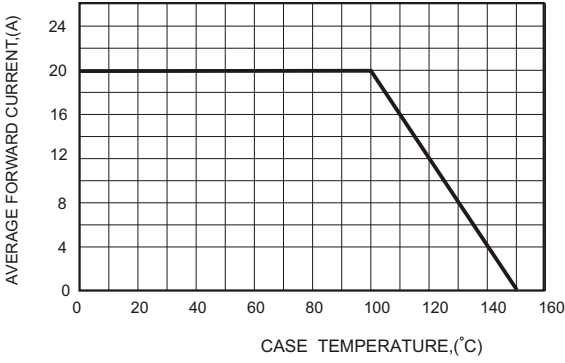


FIG.2-TYPICAL FORWARD CHARACTERISTICS

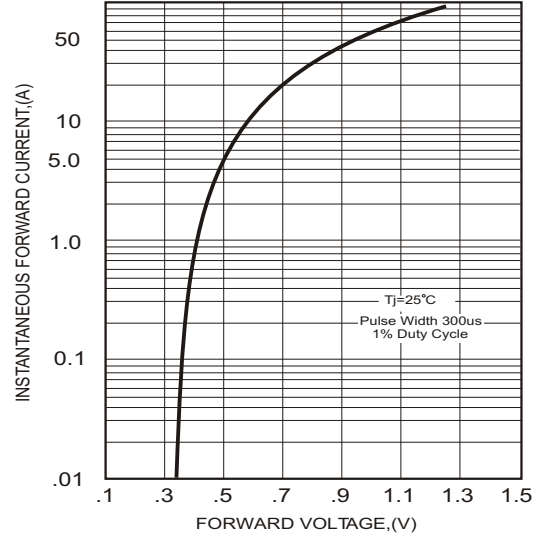


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

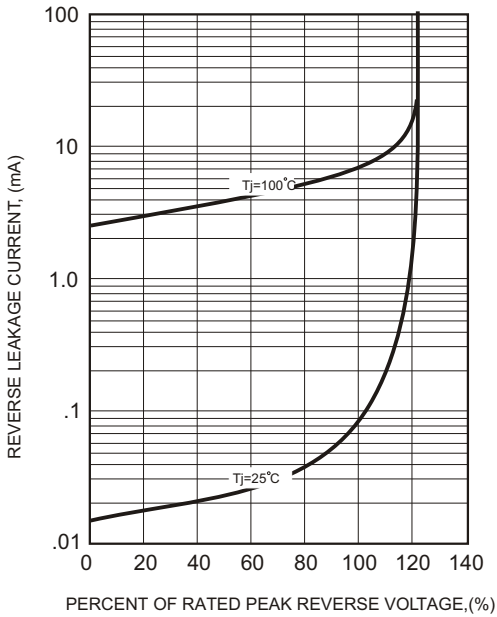


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

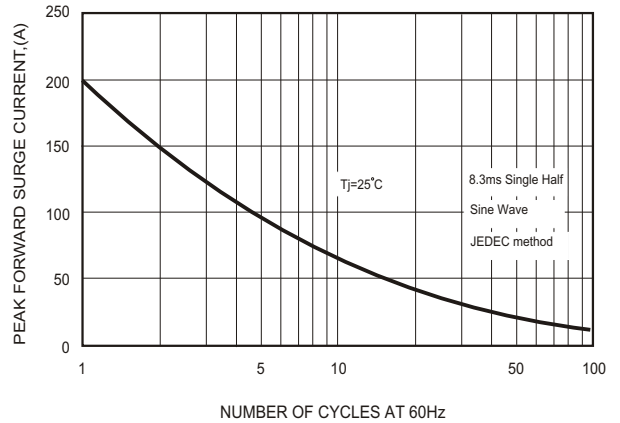
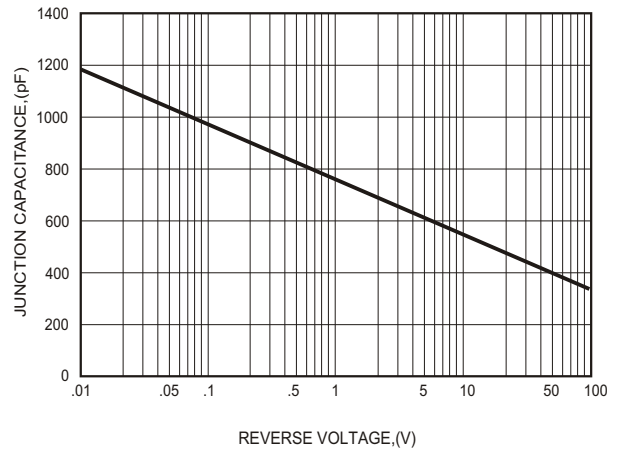


FIG.5-TYPICAL JUNCTION CAPACITANCE



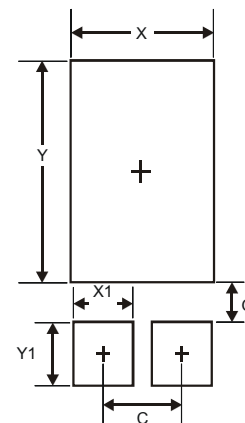
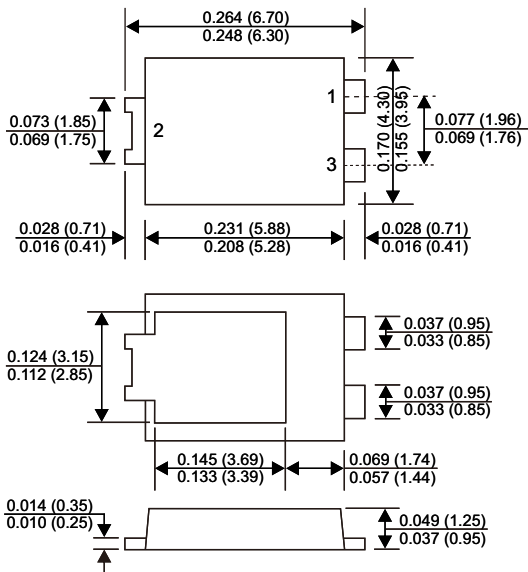
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217 °C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C



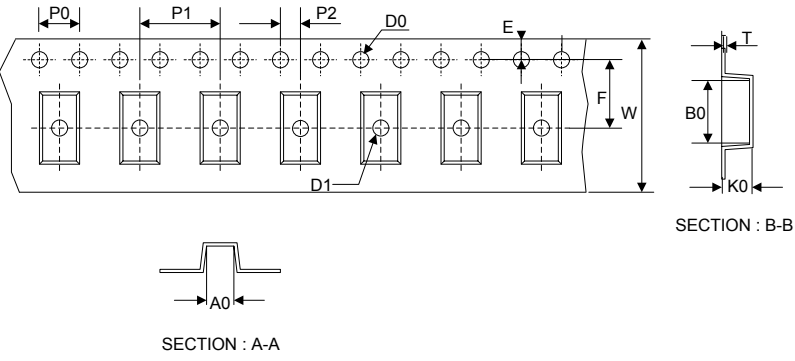
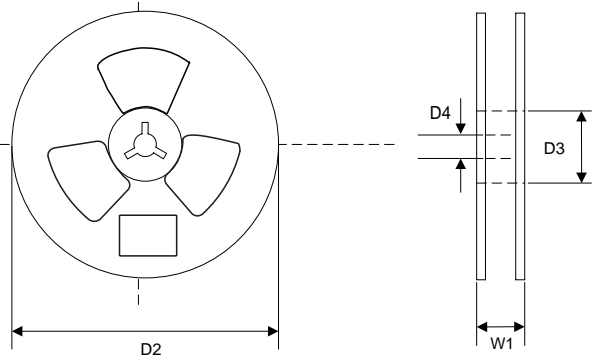
Package Dimensions & Suggested Pad Layout

TO - 277



Dimensions	Value (in mm)
C	1.84
G	1.00
X	3.50
X1	1.40
Y	4.90
Y1	1.50

Tape & reel specification

Tape	Symbol	Dimension (mm)
	P0	4.00±0.20
	P1	8.00±0.20
	P2	2.00±0.20
	D0	1.55±0.20
	D1	1.55±0.20
	E	1.75±0.15
	F	5.50±0.20
	W	12.00±0.20
	A0	4.50±0.20
	B0	6.80±0.20
	K0	1.35±0.20
	T	0.23±0.10
	<p>13" Reel</p> 	D2
D3		73Min.
D4		13.5±2.5
W1		16.0±3.0
Quantity: 5000PCS		