

# SBR830 thru SBR8100

## Schottky Barrier Rectifiers

Reverse Voltage 30 to 100V Forward Current 8A

### FEATURES

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* Low power loss,high efficiency
- \* For use in low voltage high frequency inverters, free wheeling,and polarity protection applications
- \* Guardring for over voltage protection
- \* High temperature soldering guaranteed: 260°C/10 seconds at terminals

### Mechanical Data

Case: JEDEC TO-277A,  
molded plastic over SKY body  
Terminals: Plated leads, solderable per  
MIL-STD-750, Method 2026

Mounting Position: Any

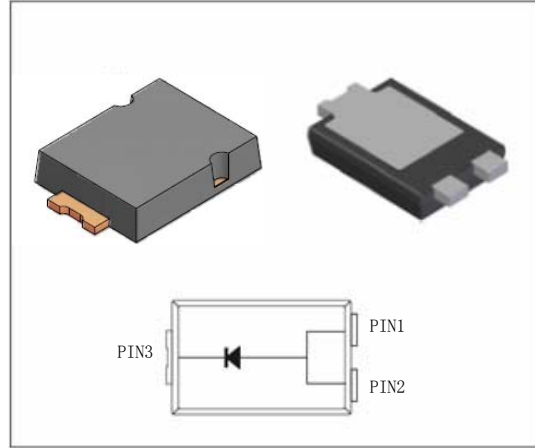
Weight: 0.108 g

Handling precaution:None

### 1.Electrical Characteristic

#### Maximum & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	SBR830	SBR840	SBR845	SBR860	SBR8100	Unit	
device marking code		SBR 830	SBR 840	SBR 845	SBR 860	SBR 8100		
Maximum repetitive peak reverse voltage	$V_{RRM}$	30	40	45	60	100	V	
Maximum RMS voltage	$V_{RMS}$	21	28	31.5	42	70	V	
Maximum DC blocking voltage	$V_{DC}$	30	40	45	60	100	V	
Maximum average forward rectified current at $T_c = 75^\circ\text{C}$	$I_{F(AV)}$	8.0						A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150						A
Typical thermal resistance (Note 1)	$R_{\theta JL}$	3						°C/W
	$R_{\theta JC}$	8						
	$R_{\theta JA}$	80						
Typical thermal resistance (Note 3)	$R_{\theta JA}$	135						°C/W
Operating junction temperature range	$T_J$	-55 to +150						°C
Storage temperature range	$T_{STG}$	-55 to +150						°C



We declare that the material of product is  
Halogen free (green epoxy compound)

#### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	SBR830	SBR840	SBR845	SBR860	SBR8100	Unit	
Maximum instantaneous forward voltage at 8A at 25°C	$V_F$	0.57			0.70	0.87	V	
Maximum DC reverse current $T_j = 25^\circ\text{C}$ at rated DC blocking voltage $T_j = 100^\circ\text{C}$ (note2) at rated DC blocking voltage $T_j = 125^\circ\text{C}$ (note2)	$I_R$	0.20					0.070	mA
		10.0						
		20						
Typical junction capacitance at 4.0V, 1MHz	$C_J$	500						PF

#### NOTES:

1. Polyimide PCB, 2oz. Copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 14.4mm.
- 2.Short duration pulse test used to minimize self-heating effect .
- 3.FR-4 PCB, 2oz.Copper.

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## 2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating

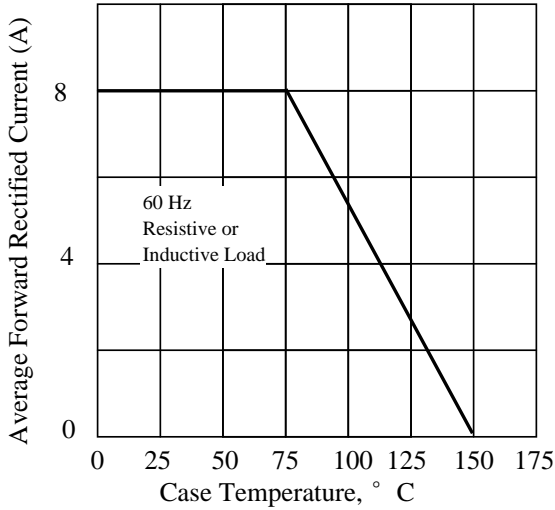


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

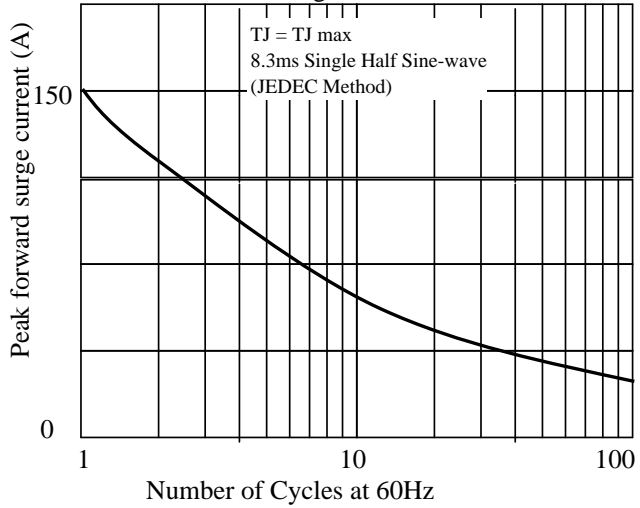


Fig. 3 - Typical Instantaneous Forward Characteristics

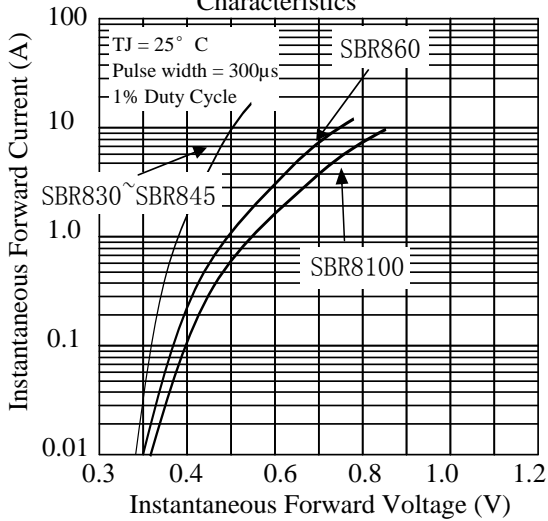


Fig. 4 - Typical Reverse Characteristics

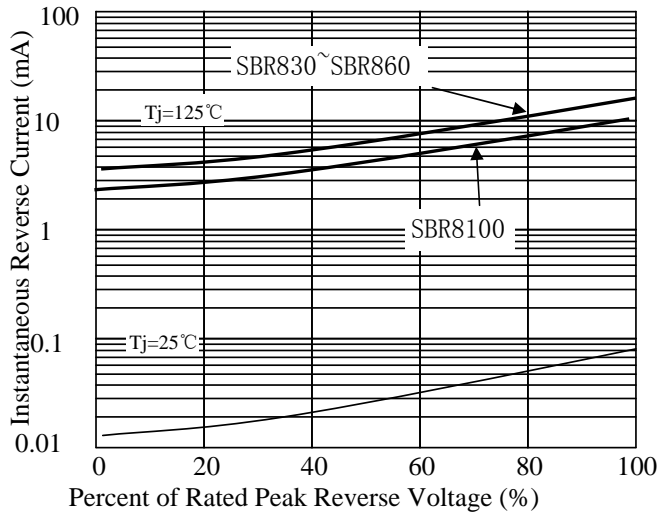


Fig. 5 - typical transient thermal impedance (Note 3)

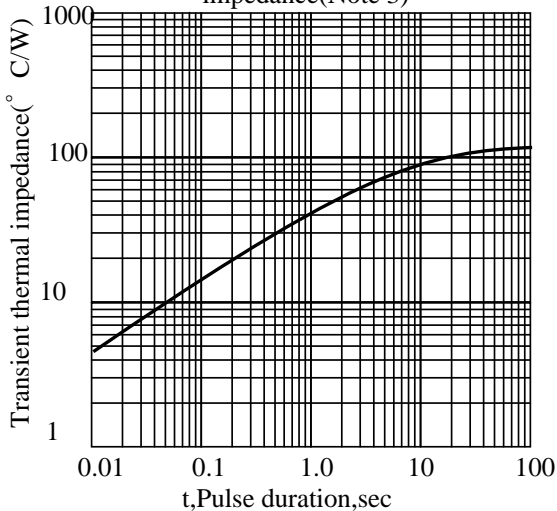
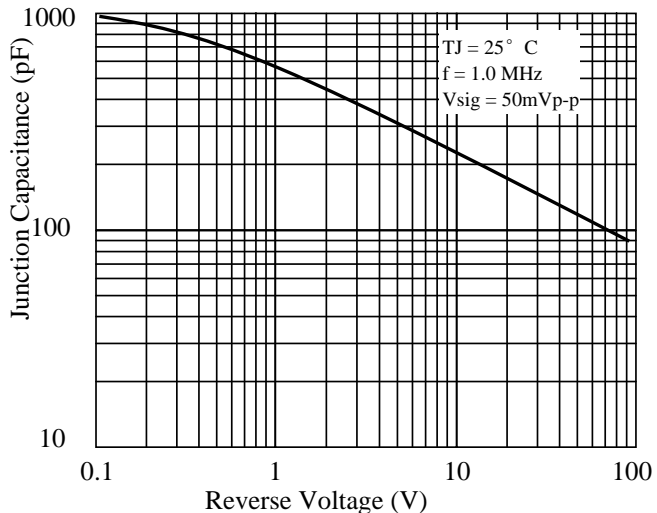


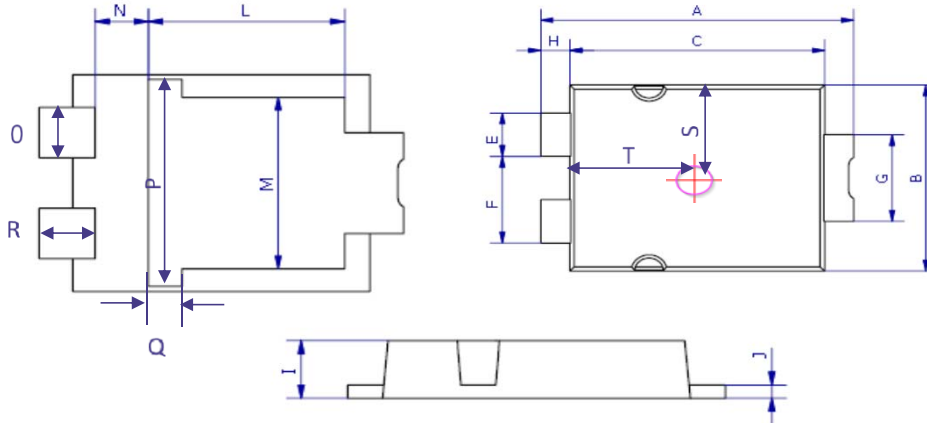
Fig. 6 - Typical Junction Capacitance



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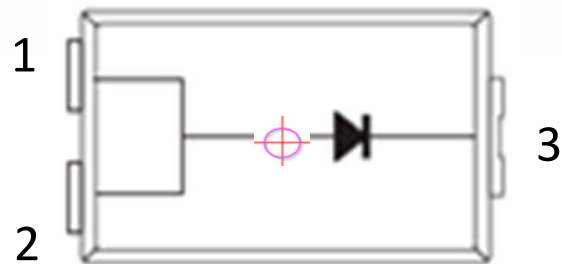
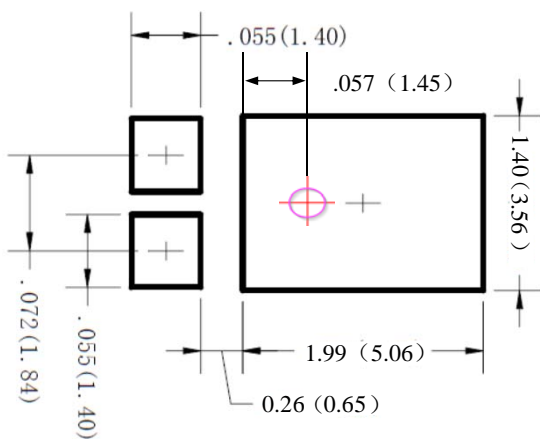
### 3. dimension:

TO 277A



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	6.3	6.7	0.248	0.264
B	4.1	4.5	0.161	0.177
C	5.1	5.5	0.201	0.217
E	0.9	1.1	0.035	0.043
F	1.9	2.1	0.075	0.083
G	1.9	2.1	0.075	0.083
H	0.50	0.70	0.020	0.028
I	1.00	1.20	0.039	0.047
J	0.15	0.35	0.006	0.014
L	3.30	3.70	0.130	0.146
M	3.20	3.60	0.126	0.142
N	0.80	1.10	0.033	0.043
O	0.90	1.10	0.035	0.043
P	3.90	4.30	0.154	0.169
Q	0.50	0.80	0.020	0.031
R	0.85	1.15	0.033	0.045
S	2.00	2.30	0.079	0.091
T	2.50	2.80	0.098	0.110

### Mounting PAD layout



- 1: Anode
- 2: Anode
- 3: Cathode

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### 4. Update Record

版次	更新记录	更新作者	更新日期
1	第一版	周杰	2014.06.09
2	增加SBR8100	周杰	2014.10.25
3	增加印字说明	周杰	2016.02.23
4	VF曲线调整	谭志伟	2020.12.23