

**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

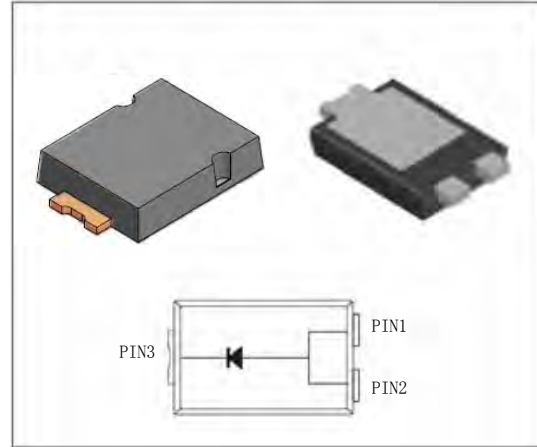
### Mechanical Data

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						$^\circ\text{C/W}$
	$R_{\theta JC}$	8						
	$R_{\theta JA}$	80						
Typical thermal resistance (Note 3)	$R_{\theta JA}$	135						$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	-55 to +150						$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150						$^\circ\text{C}$



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)	IR	0.20					0.070	mA
		10.0					10.0	
		20					15	
Typical junction capacitance at 4.0V, 1MHz	CJ	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.

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

Fig. 1 - Forward Current Derating

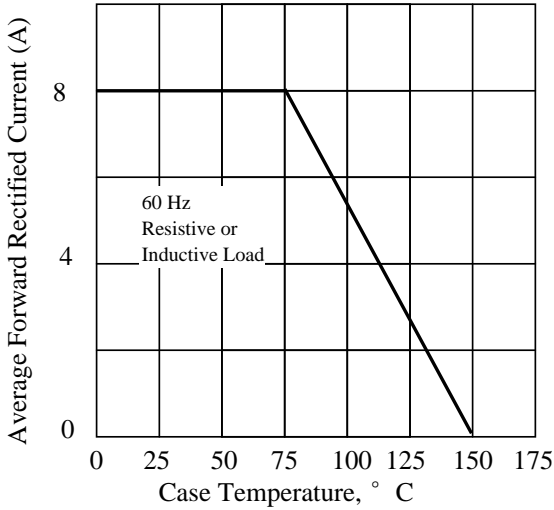


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

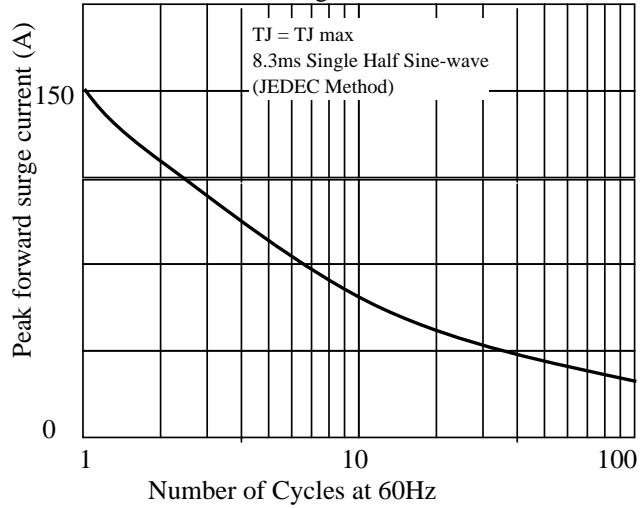


Fig. 3 - Typical Instantaneous Forward Characteristics

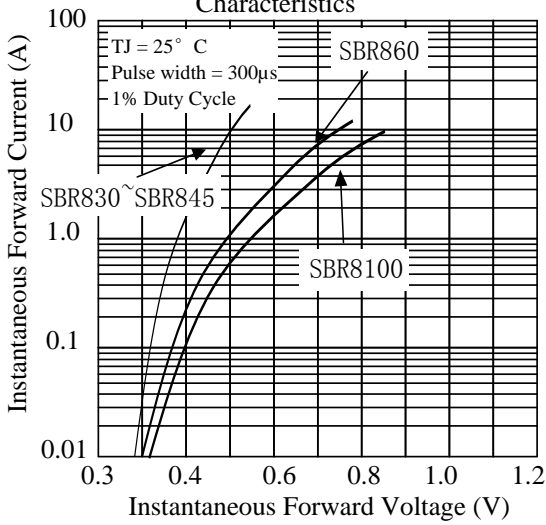


Fig. 4 - Typical Reverse Characteristics

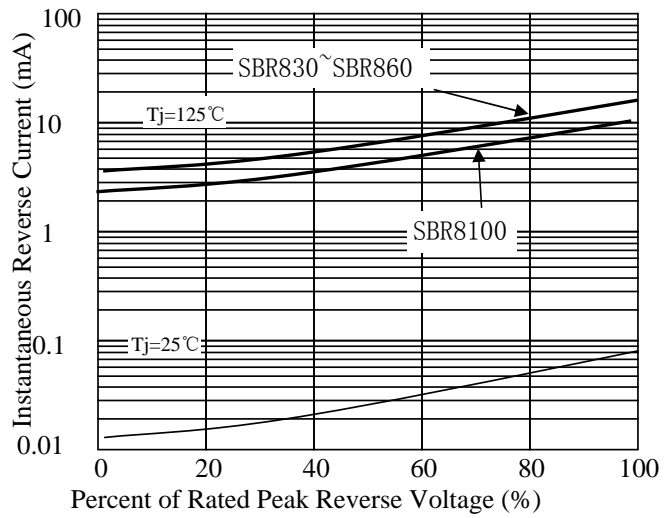


Fig. 5 - typical transient thermal impedance(Note 3)

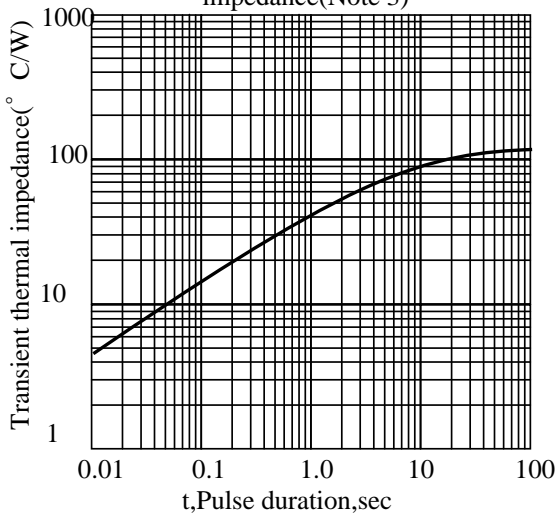
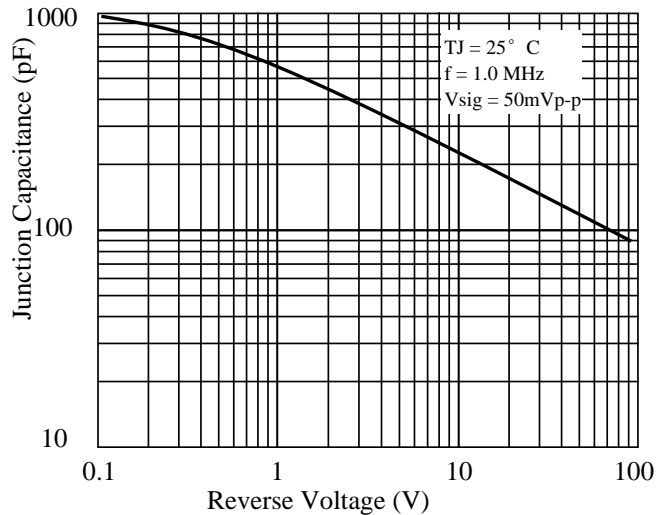
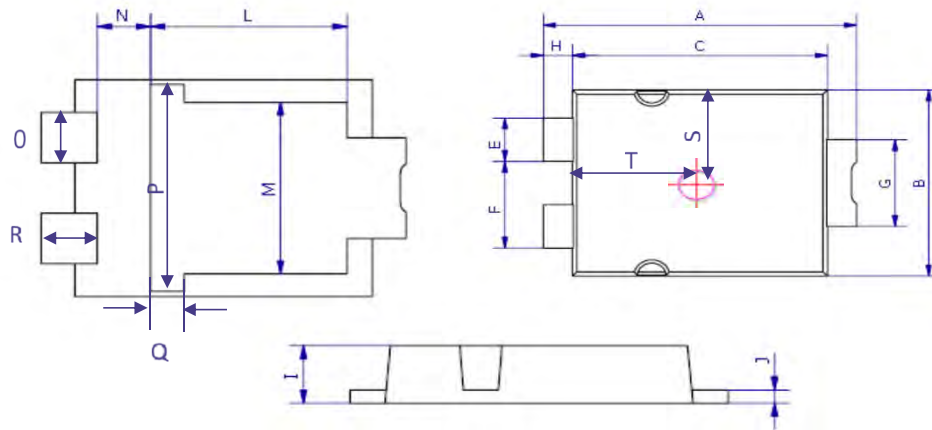


Fig. 6 - Typical Junction Capacitance



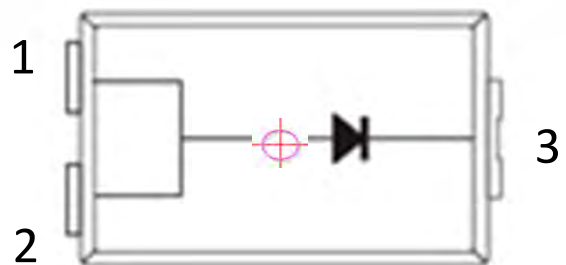
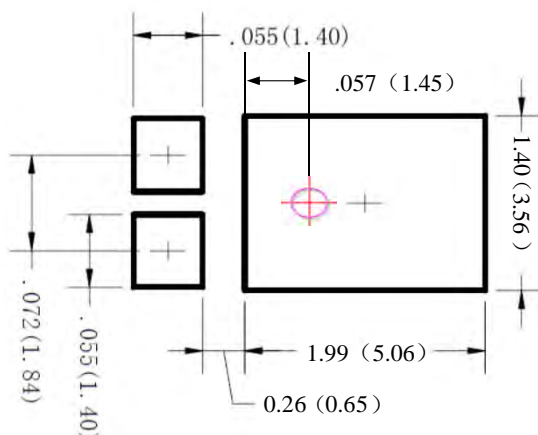
**3. dimension:**

**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