

# S-SBR540 thru S-SBR5100

## Schottky Barrier Rectifiers

### Reverse Voltage 40 to 100V Forward Current 5A

#### 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
- \* S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

#### 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: 0.095 g

Handling precaution:None

#### 1.Electrical Characteristic

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

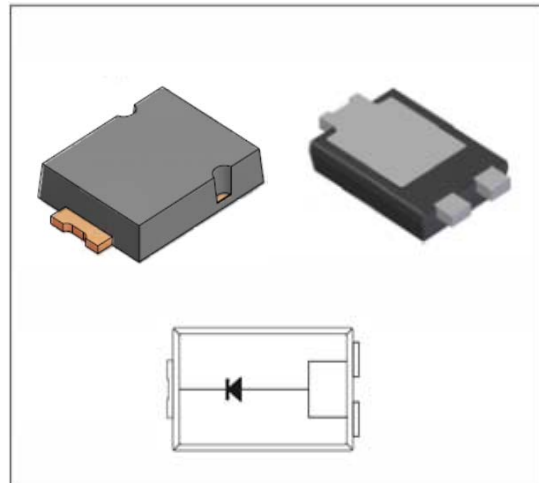
Parameter Symbol	symbol	S-SBR540	S-SBR560	S-SBR5100	Unit
device marking code		S54	S56	S510	
Maximum repetitive peak reverse voltage	$V_{RRM}$	40	60	100	V
Maximum RMS voltage	$V_{RMS}$	28	42	70	V
Maximum DC blocking voltage	$V_{DC}$	40	60	100	V
Maximum average forward rectified current at $T_c = 75^\circ\text{C}$	$I_{F(AV)}$	5.0			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			
	$R_{\theta JA}$	60			
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			$^\circ\text{C}$

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

Parameter Symbol	symbol	S-SBR540	S-SBR560	S-SBR5100	Unit
Maximum instantaneous forward voltage at 5A at 25°C	$V_F$	0.55	0.7	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	0.3	10.0	0.015	mA
		15.0		20	
		25			
Typical junction capacitance at 4.0V, 1MHz	CJ	160			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.



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

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

Fig. 1 - Forward Current Derating

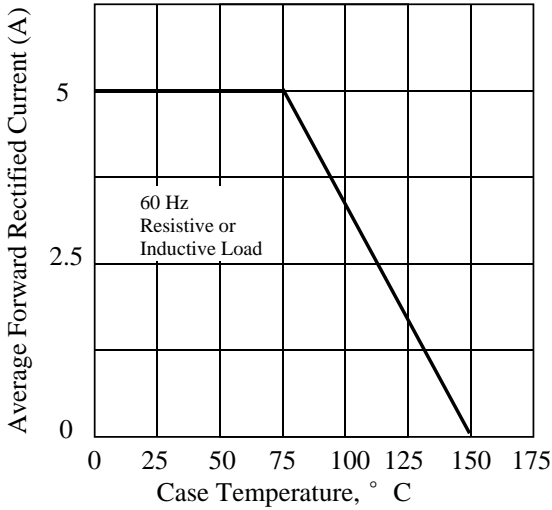


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

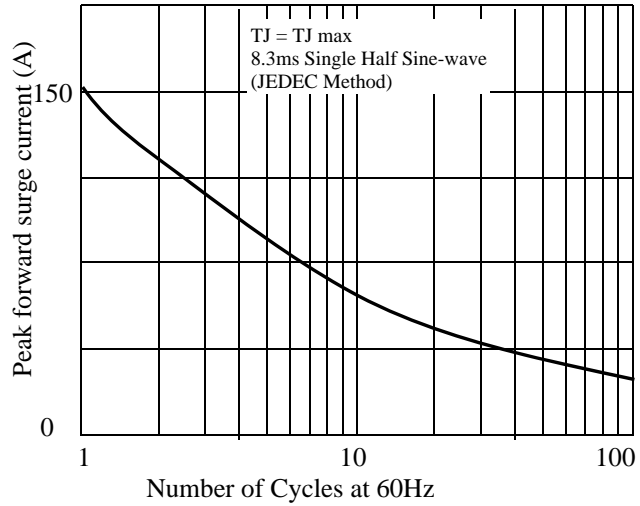


Fig. 3 - Typical Instantaneous Forward Characteristics

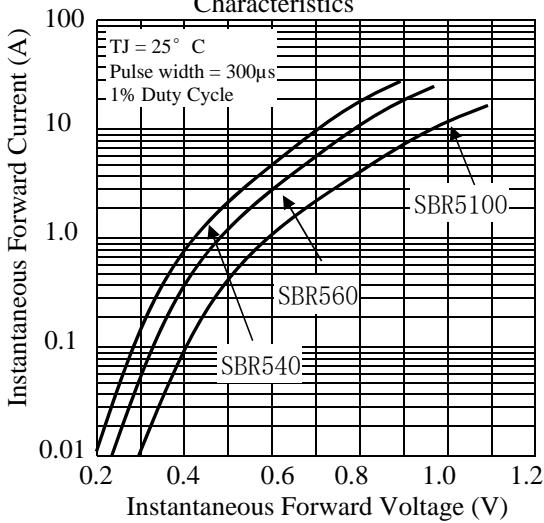


Fig. 4 - Typical Reverse Characteristics

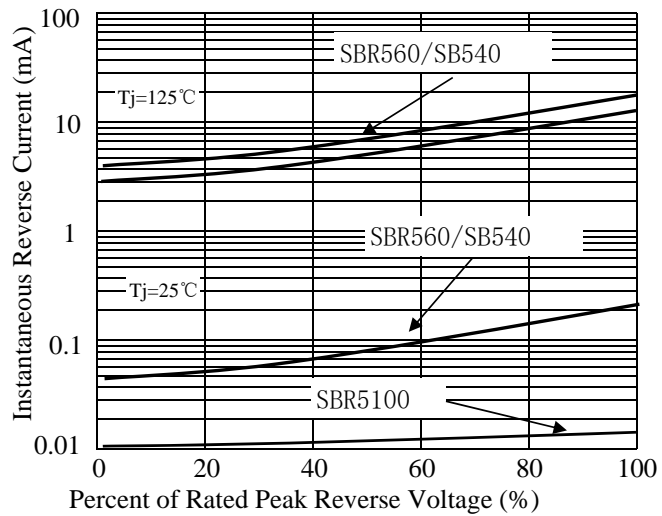


Fig. 5 - typical transient thermal impedance(Note 3)

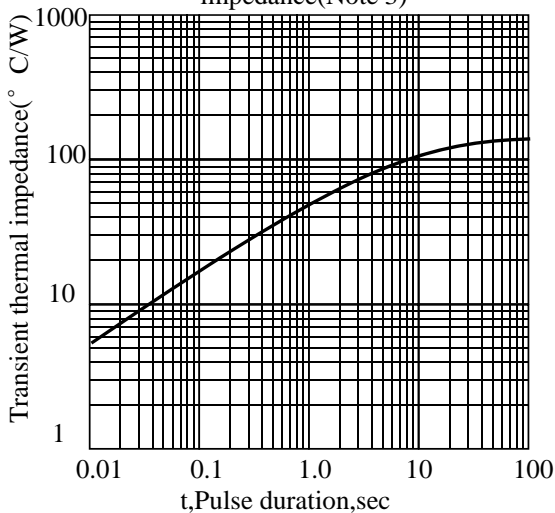
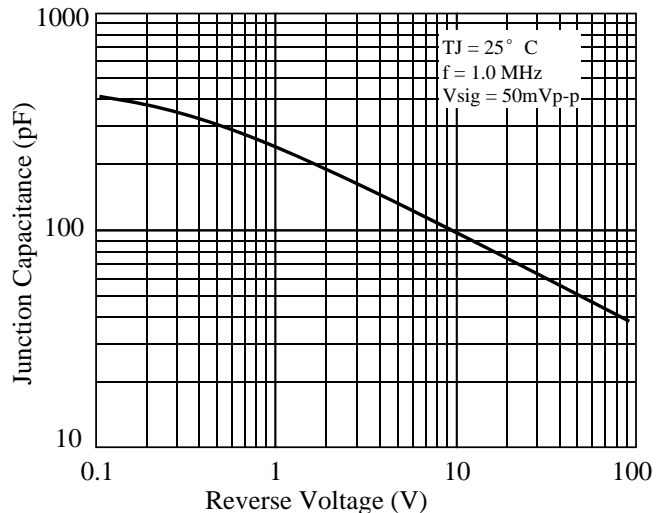


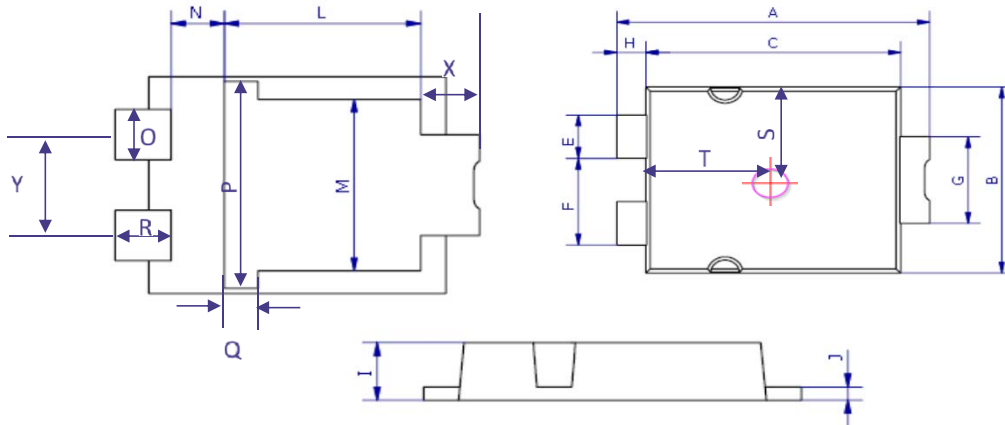
Fig. 6 - Typical Junction Capacitance



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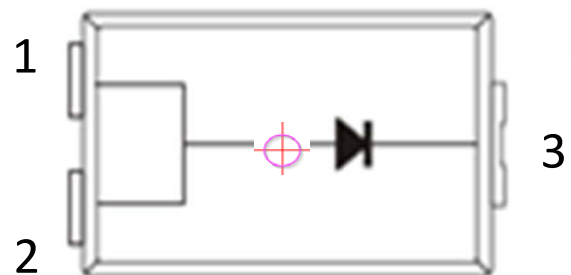
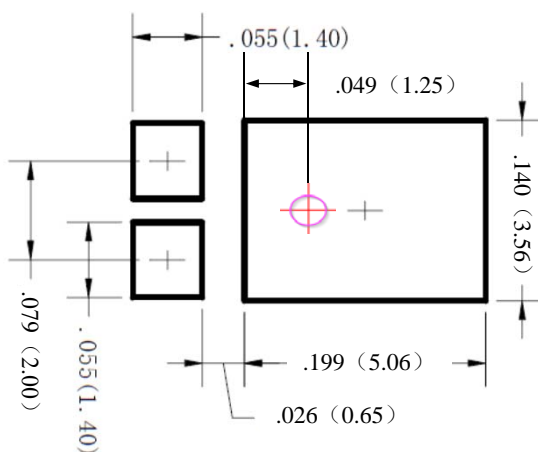
### 3. dimension:

### TO-277A



DIM	MILLIMETERS		INCHES		DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX
A	6.3	6.7	0.248	0.264	X	0.9	1.2	0.35	0.047
B	4.1	4.5	0.161	0.177	Y	1.9	2.1	0.075	0.083
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	0.031	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

## S-SBR540 thru S-SBR5100

### 5. Update Record

版次	更新记录	更新作者	更新日期
1	第一版	周杰	2014. 8. 28
2	修正R θ JA	谭志伟	2016. 12. 7
3	优化印字	谭志伟	2022. 11. 16

单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)