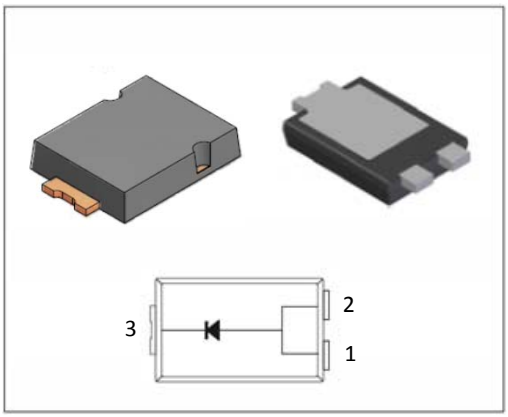
SBR1045 thru SBR10200

Schottky Barrier Rectifiers

Reverse Voltage 45 to 100V Forward Current 10A

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



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

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 precautin:None

1.Electrical Characteristic

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

Parameter Symbol	symbol	SBR1045	SBR1060	SBR10100	SBR10150	SBR10200	Unit
device marking code		S1045	S106	S1010	S1015	S1020	
Maximum repetitive peak reverse voltage	V_{RRM}	45	60	100	150	200	V
Maximum RMS voltage	V_{RMS}	31.5	42	70	105	140	V
Maximum DC blocking voltage	V_{DC}	45	60	100	150	200	V
Maximum average forward rectified current at Tc = 75°C	IF(AV)	10.0					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	300					A
Typical thermal resistance (Note 1)	RθJL RθJC RθJA	3 8 60					°C/W
Typical thermal resistance (Note 2)	RθJA	135					°C/W
Operating junction temperature range	TJ	–55 to +150					°C
Storage temperature range	T_{STG}	–55 to +150					°C

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

Parameter Symbol	symbol	SBR1045	SBR1060	SBR10100	SBR10150	SBR10200	Unit
Maximum instantaneous forward voltageat 25℃ at 5A at10A	V_F	- 0.55	- 0.70	0.82 0.88			V
Maximum DC reverse current TA = 25°C at rated DC blocking voltage Tj = 100°C	IR	0.005 15.0					mA
Typical junction capacitance at 4.0V, 1MHz	CJ	500					PF

NOTES:

1. Polymide PCB, 2oz. Copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 14.4mm.
2.FR-4 PCB, 2oz.Copper.

2. Electriccal Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

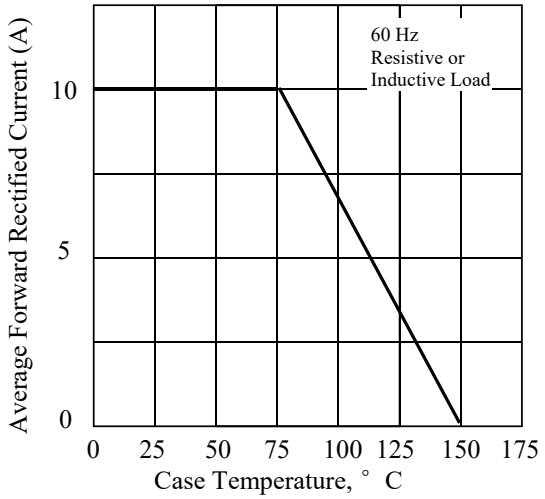


Fig. 2 – Maximum Non-repetitive Peak Forward Surge Current

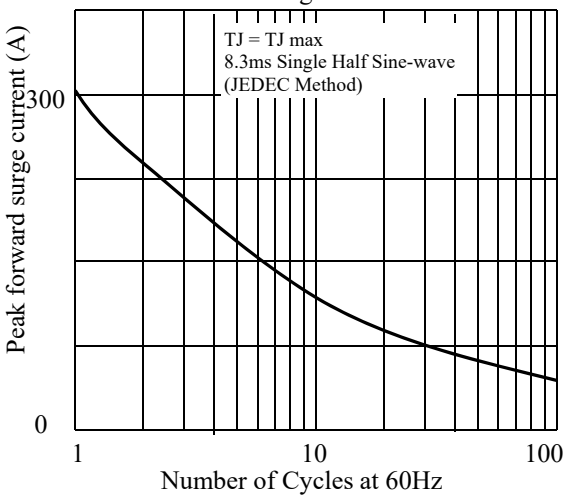


Fig 3. – Typical Instantaneous Forward Characteristics

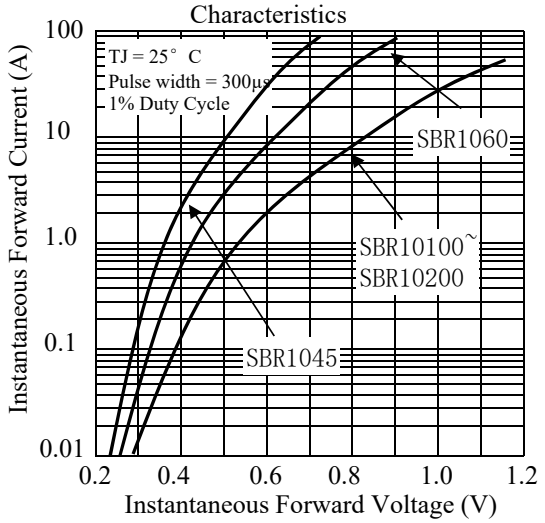


Fig 4. – Typical Reverse Characteristics

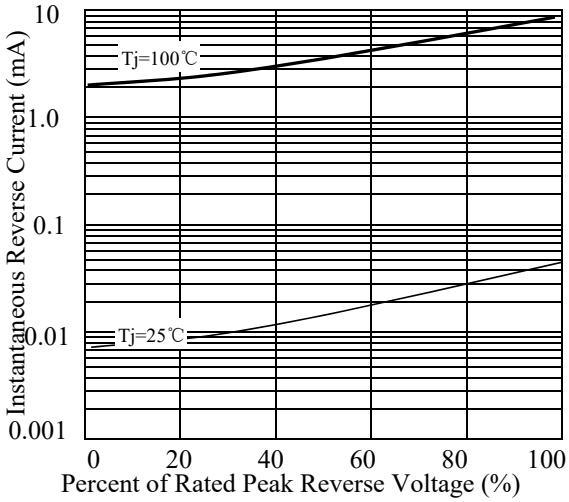


Fig 5. – typical transient thermal impedance (Note 2)

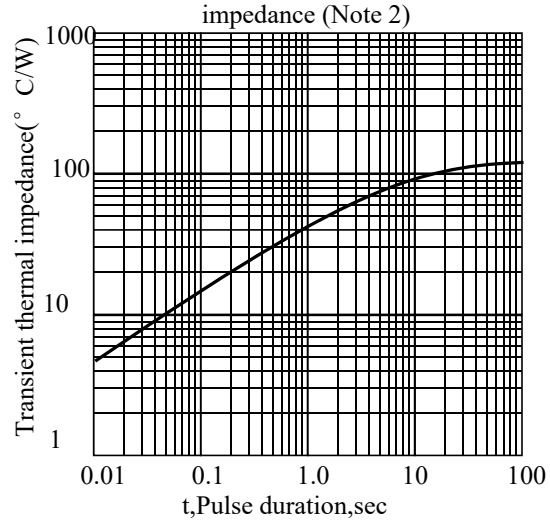
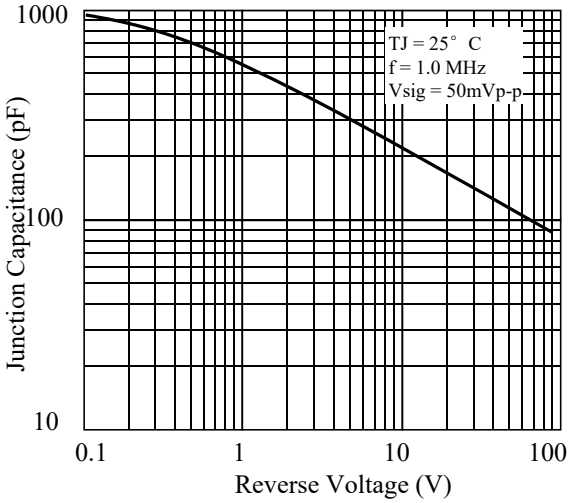
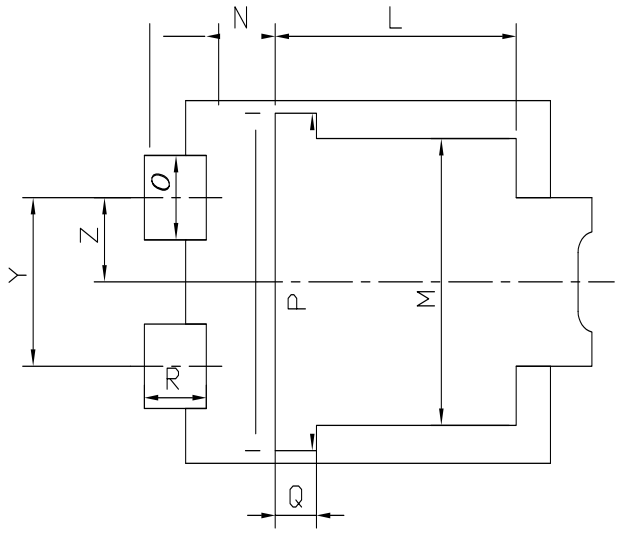


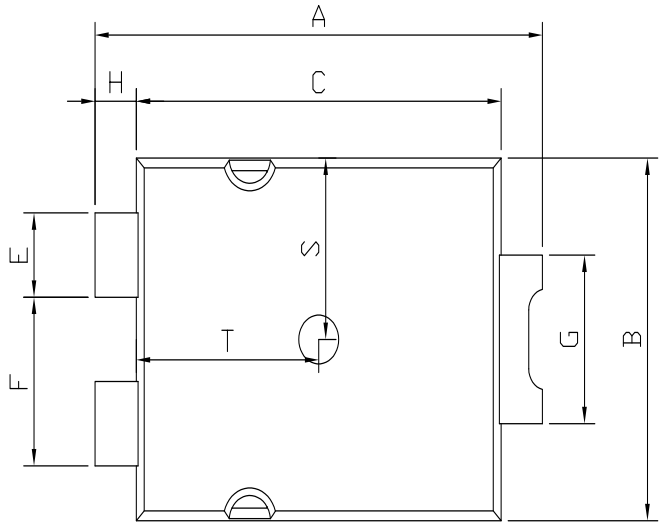
Fig 6. – Typical Junction Capacitance

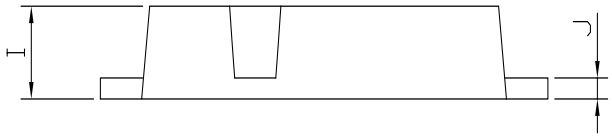


3. Pckage Outline Dimensions

TO-277A

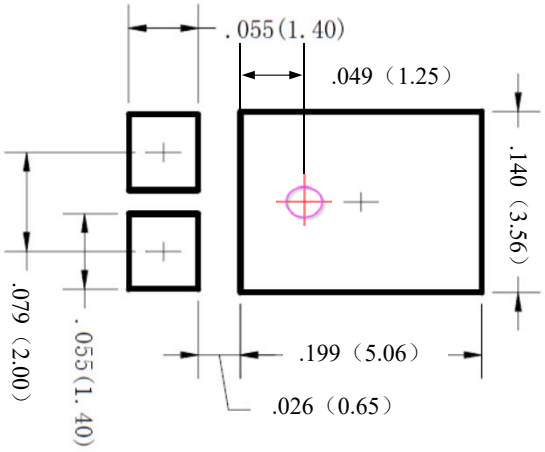


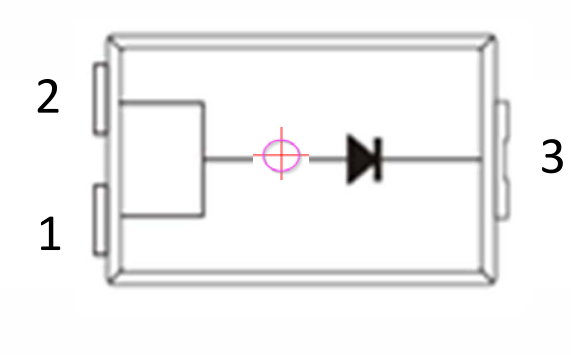




TO277A			TO277A		
DIM	MIN	MAX	DIM	MIN	MAX
A	6.30	6.70	S	2.00	2.30
B	4.10	4.50	T	2.50	2.80
C	5.10	5.50	X	0.90	1.20
E	0.90	1.10	Y	1.90	2.10
F	1.90	2.10	Z	0.90	1.10
G	1.90	2.10	All Dimensions in mm		
H	0.50	0.70			
I	1.00	1.20			
J	0.15	0.35			
L	3.30	3.70			
M	3.20	3.60			
N	0.80	1.10			
O	0.90	1.10			
P	3.90	4.30			
Q	0.50	0.80			
R	0.85	1.15			

Mounting PAD layout





1：Anode
2：Anode
3：Cathode

4. Update Record

版次	更新记录	更新作者	更新日期
1	第一版	周杰	2013-8-7
2	更新产品尺寸为TO-277A	周杰	2014-1-17
3	标注外形尺寸公差	周杰	2014-6-9
4	增加SBR1060 SBR10100 SBR10200	周杰	2014-7-31
5	修正管体L标注尺寸	周杰	2014-9-26
6	增加SBR10150	周杰	2015-9-28
7	增加PIN标示说明	谭志伟	2016-10-8
8	增加包装说明	谭志伟	2016-10-13
9	增加尺寸标注	谭志伟	2017-7-26
10	优化marking	谭志伟	2022-11-21
J	IR max更新为5uA	陈帅	2025-03-24
K	刷新产品重量	陈帅	2025-07-10