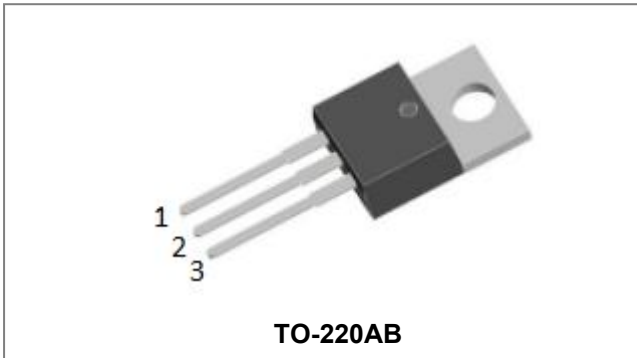


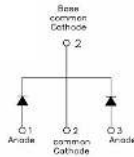
## SBR10100CT SCHOTTKY RECTIFIER



### Features

- 150°C T<sub>J</sub> operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced
- mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	-	100	V
Working Peak Reverse Voltage	V <sub>RWM</sub>			
DC Blocking Voltage	V <sub>R</sub>			
Average Rectified Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>c</sub> =150°C, rectangular wave form	5(Per Leg) 10(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I <sub>FSM</sub>	8.3ms, Half Sine pulse, T <sub>c</sub> = 25 °C	120	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V <sub>F1</sub>	@ 5A, Pulse, T <sub>J</sub> = 25 °C	0.83	0.88	V
	V <sub>F2</sub>	@ 5A, Pulse, T <sub>J</sub> = 125 °C	0.70	0.75	V
Reverse Current(Per Leg)*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C	0.002	1.0	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C	0.3	15.0	mA
Junction Capacitance(Per Leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>c</sub> = 25 °C, f <sub>SIG</sub> = 1MHz	150	300	pF
Repetitive peak reverse current	I <sub>RRM</sub>	t <sub>p</sub> = 2 μs square F= 1 kHz	-	1	A
Non-Repetitive Avalanche Energy	E <sub>AS</sub>	T <sub>J</sub> = 25°C, I <sub>AS</sub> = 5 A, L = 1mH	-	12.5	mJ
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

\* Pulse width < 300 μs, duty cycle < 2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +200	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-	-55 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case(Per Leg)	$R_{\theta JC}$	DC operation	3.5	$^{\circ}\text{C}/\text{W}$
Approximate Weight	wt	-	2	g

**Ratings and Characteristics Curves**

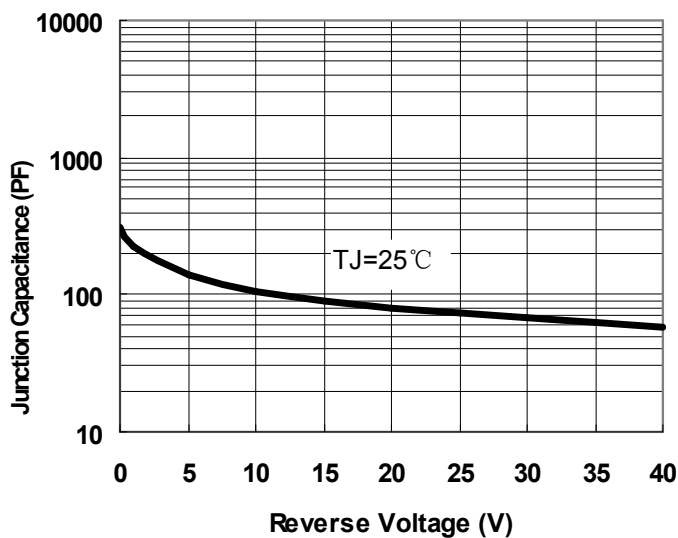


Fig.1-Typical Junction Capacitance

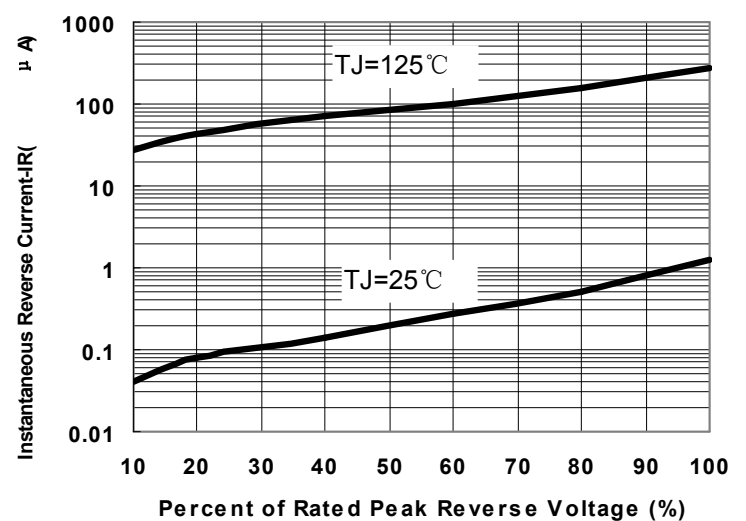


Fig.2-Typical Reverse Characteristics

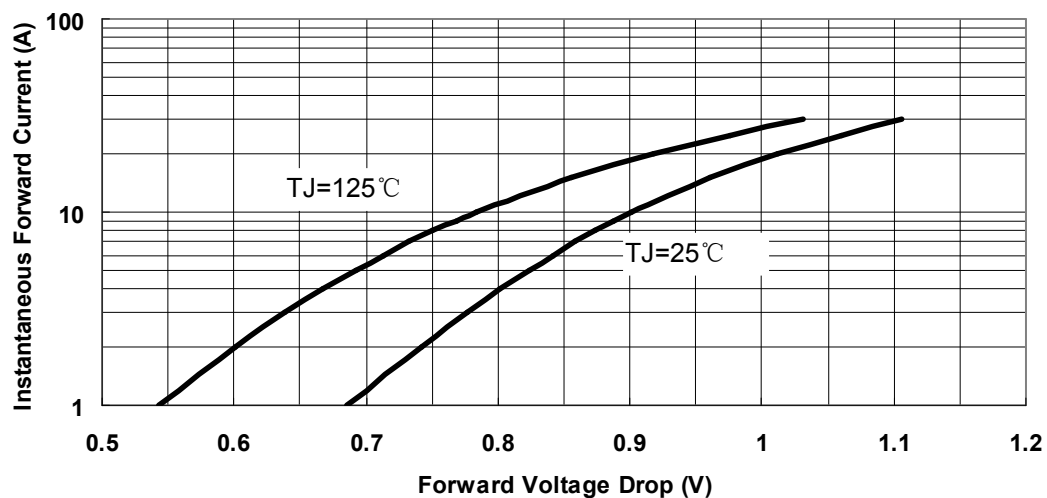
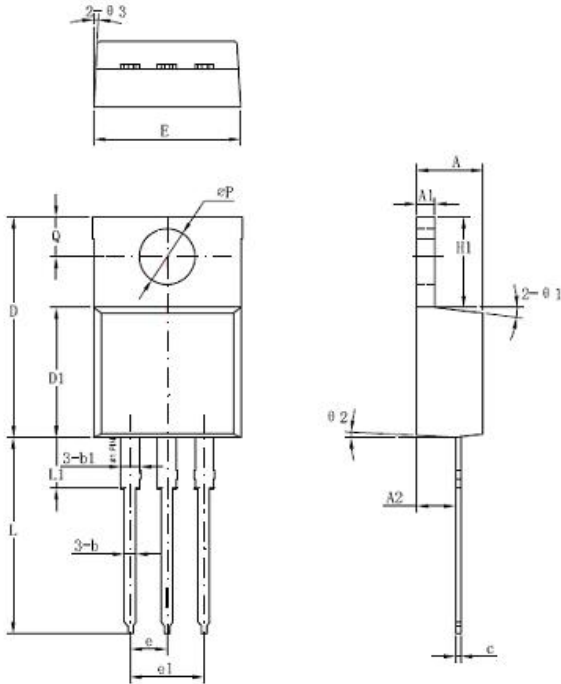


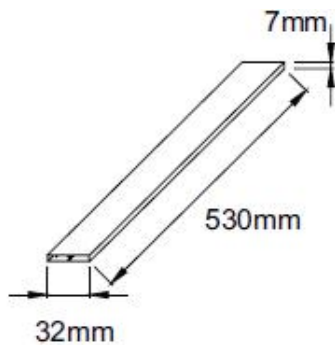
Fig.3-Typical Instantaneous Forward Voltage Characteristics

**Mechanical Dimensions TO-220AB**

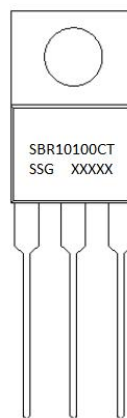


Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.52	2.69	2.89
b	0.71	0.81	0.96
b1	1.17	1.27	1.37
c	0.31	0.38	0.61
D	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
e		2.54	
e1	4.98	5.06	5.18
H1	6.04	6.24	6.44
L	12.7	13.56	13.80
L1	3.56	3.5	3.96
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
θ1		7°	
θ2		3°	
θ3		4°	

**Tube Specification**



**Marking Diagram**



Where XXXXX is YYWWL

- SBR = Device Type
- 10 = Forward Current (10A)
- 100 = Reverse Voltage(100V)
- CT = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Ordering Information**

Device	Package	Shipping
SBR10100CT	TO-220AB (Pb-Free)	50 pcs/ tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

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