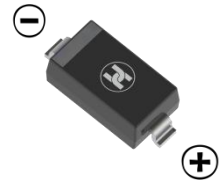


## SCHOTTKY BARRIER DIODE

### FEATURES

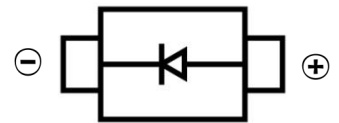
- Small Surface Mount device
- Low power loss, high efficiency
- Guardring for over voltage protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications



SOD-123

### MECHANICAL DATA

- Case: SOD-123
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.0053 grams (approximate)



### MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	SS12W	SS13W	SS14W	SS15W	SS16W	SS18W	SS110W	SS115W	SS120W	Unit	
Repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	50	60	80	100	150	200	V	
DC Reverse Voltage	V <sub>R</sub>	20	30	40	50	60	80	100	150	200	V	
RMS Reverse Voltage	V <sub>RMS</sub>	14	21	28	35	42	56	70	105	140	V	
Non-Repetitive Peak Forward Surge Current @ t = 8.3 ms	I <sub>FSM</sub>	22									A	
Mean rectifying current	I <sub>F</sub>	1.0									A	
Thermal Resistance	R <sub>θJA</sub>	220									°C/W	
Thermal Resistance	R <sub>θJL</sub>	50									°C/W	
Junction Temperature	T <sub>J</sub>	-55~+125					-55~+150					°C
Storage Temperature	T <sub>STG</sub>	-55 ~+150									°C	

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	SS12W	SS13W	SS14W	SS15W	SS16W	SS18W	SS110W	SS115W	SS120W	Unit	Conditions	
Forward voltage	V <sub>F</sub>	0.48		---		---		---		---		V	I <sub>F</sub> =0.7A
		0.55		0.68		0.85		0.9		0.92			I <sub>F</sub> =1A
Reverse current T=25°C	I <sub>R</sub>	0.25	0.13	0.03						mA		V=V <sub>R</sub>	
Reverse current T=125°C	I <sub>R</sub>	10	10	10						mA			
Junction capacitance	C <sub>J</sub>	160									pF		V=4V, f=1MHz

SCHOTTKY BARRIER DIODE

Typical Characteristics

Fig. 1 - Forward Current Derating Curve

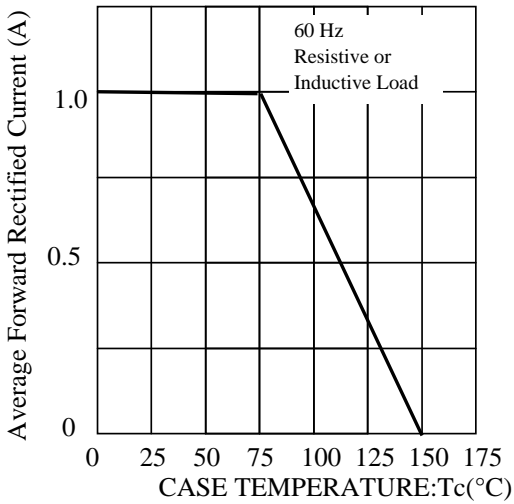


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

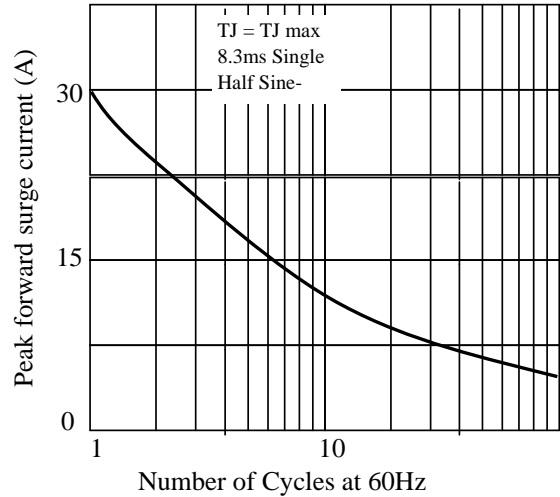


Fig 3. - Typical Instantaneous Forward Characteristics

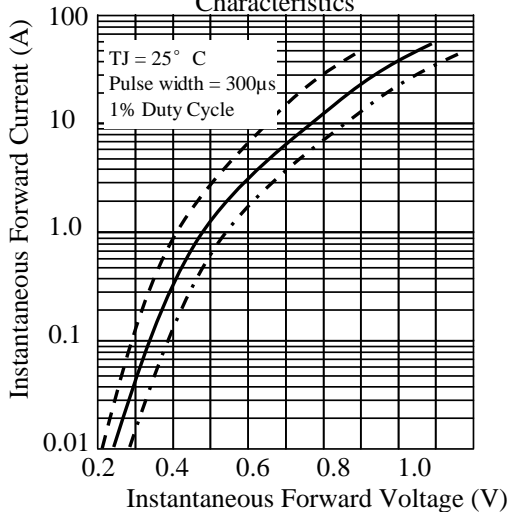


Fig 4. - Typical Reverse Characteristics

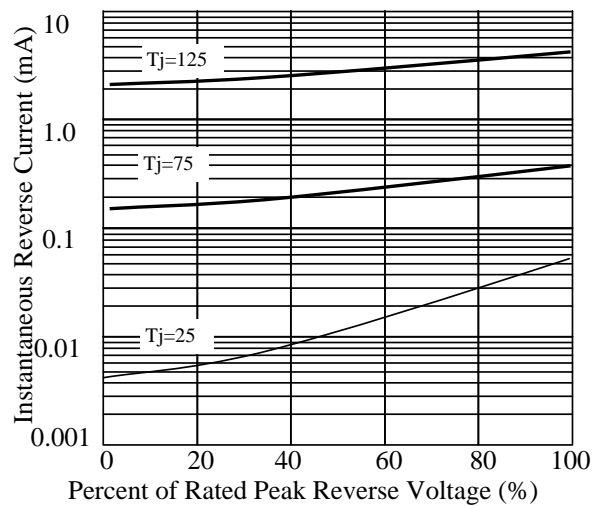


Fig 5. - typical transient thermal impedance

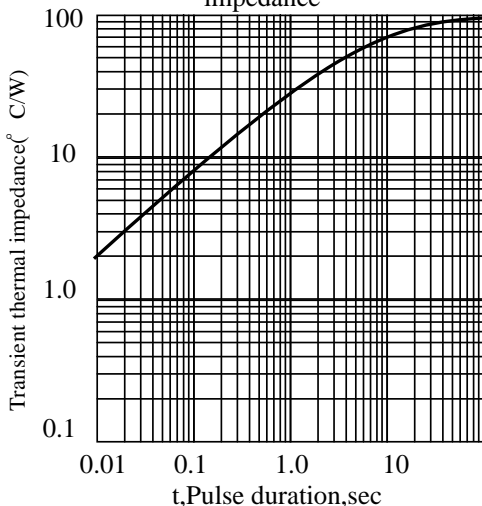
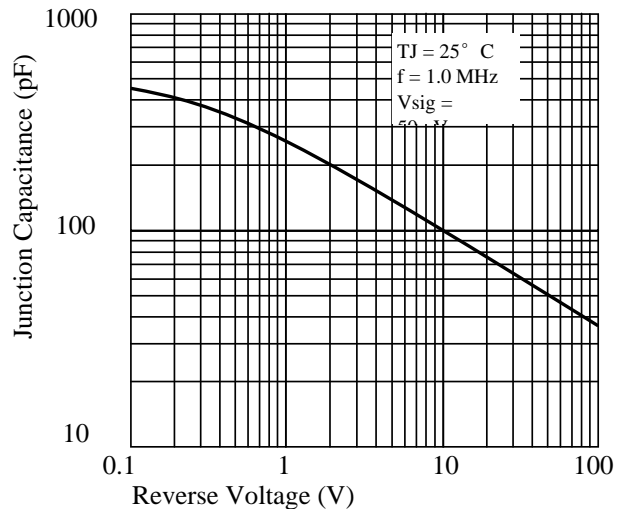
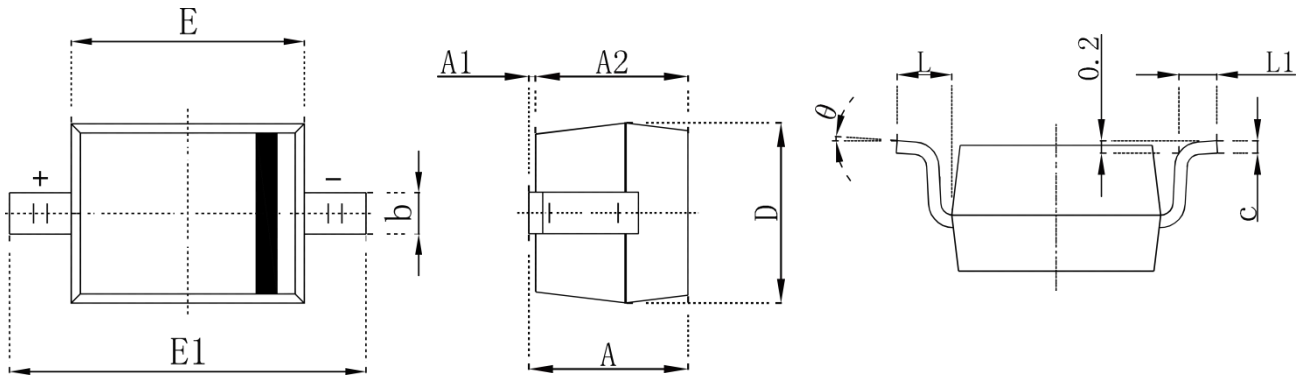


Fig 6. - Typical Junction Capacitance



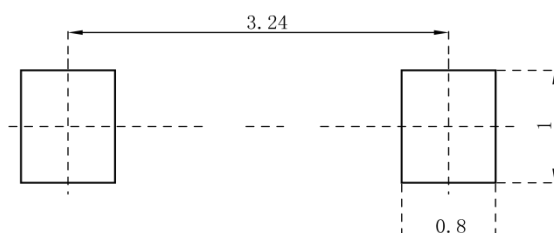
## SCHOTTKY BARRIER DIODE

### SOD-123 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
$\theta$	0°	8°	0°	8°

### SOD-123 Suggested Pad Layout



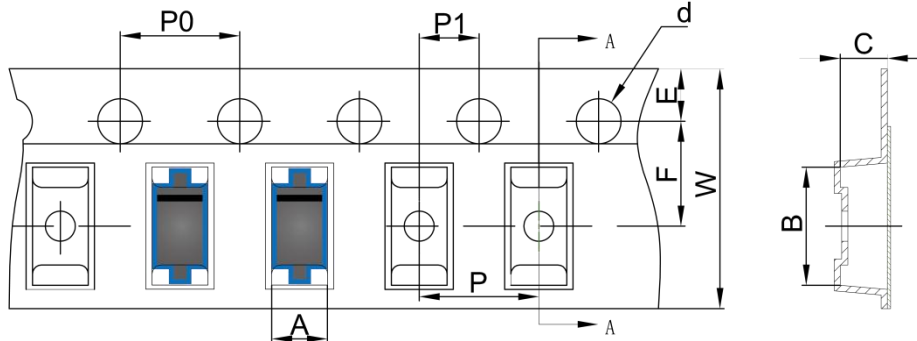
#### Note:

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

SCHOTTKY BARRIER DIODE

**SOD-123 Tape and Reel**

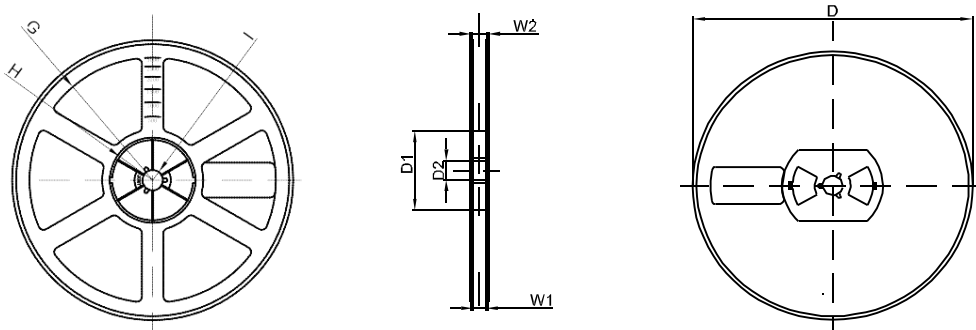
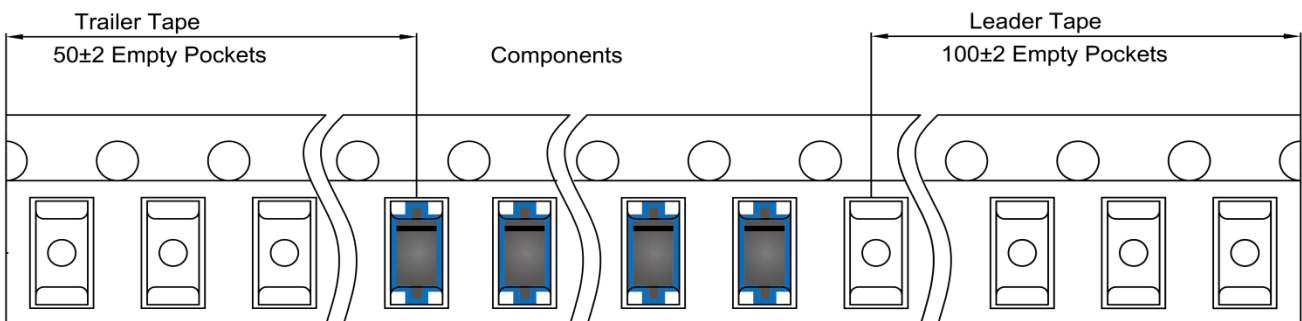
**SOD-123 Embossed Carrier Tape**



**SOD-123 Tape Leader and Trailer**

DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.95	1.57	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**SOD-123 Reel**



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1