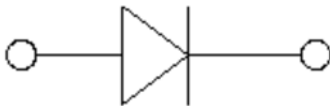


## Schottky Barrier Rectifier



### Features

- Moisture sensitivity level 1
- Reverse voltage: 20V/30V/40V
- Average forward current : 1A

### Application

- High frequency and low voltage rectifier

### Mechanical data

- **Package:** SOD-123
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

### ■ Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

Parameter	Symbol	Unit	Value	
Device marking code			B5817W	SJ
			B5818W	SK
			B5819W	SL
Repetitive peak reverse voltage	V <sub>RRM</sub>	V	B5817W	20
			B5818W	30
			B5819W	40
Forward current	I <sub>F</sub>	A	1	
Non-repetitive surge peak forward current @ t=8.3ms half-sine wave	I <sub>FSM</sub>	A	10	
Non-repetitive surge peak forward current @ t=1ms square wave			25	



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Parameter	Symbol	Unit	Value
Power dissipation	$P_D$	mW	200
Junction temperature	$T_J$	°C	-65 to +125
Storage temperature	$T_{STG}$	°C	-65 to +150

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Parameter	Symbol	Unit	Conditions	Min	Typ	Max	
Reverse voltage	$V_R$	V	B5817W	$I_R=1mA$	20		
			B5818W		30		
			B5819W		40		
Forward voltage	$V_{F1}$	V	B5817W	$I_F=1A$			0.45
			B5818W				0.55
			B5819W				0.60
	$V_{F2}$	V	B5817W	$I_F=3A$			0.75
			B5818W				0.875
			B5819W				0.90
Reverse leakage current	$I_R$	uA	B5817W	$V_R=20V$			200
			B5818W	$V_R=30V$			40
			B5819W	$V_R=40V$			40
Junction capacitance	$C_j$	pF	$V_R=4V, f=1MHz$			120	



## ■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}^{(1)}$	$^{\circ}C/W$	500
Thermal resistance, junction-to-case	$R_{\theta J-C}^{(1)}$	$^{\circ}C/W$	400

### Note:

(1) Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 8mm\*9mm copper pad areas

## ■ Characteristics

### B5817W

Fig 1:  $P_D$ - $T_a$  Curve

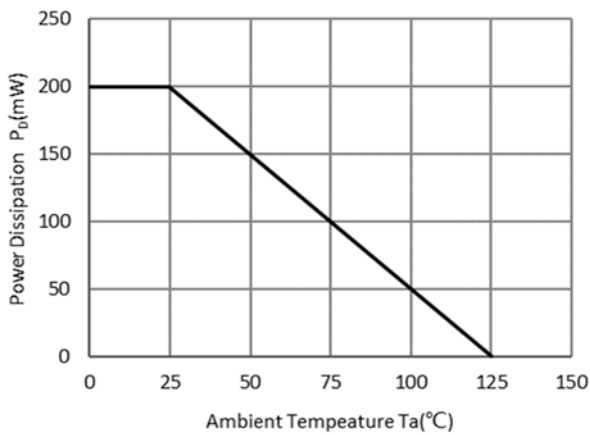


Fig 2: Capacitance Capability

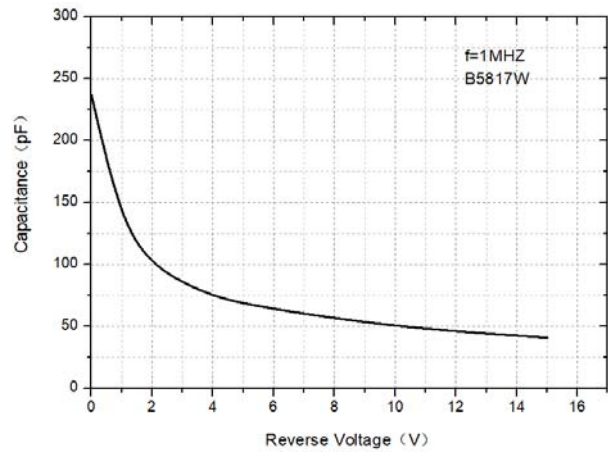


Fig 3: Typical Forward Characteristics

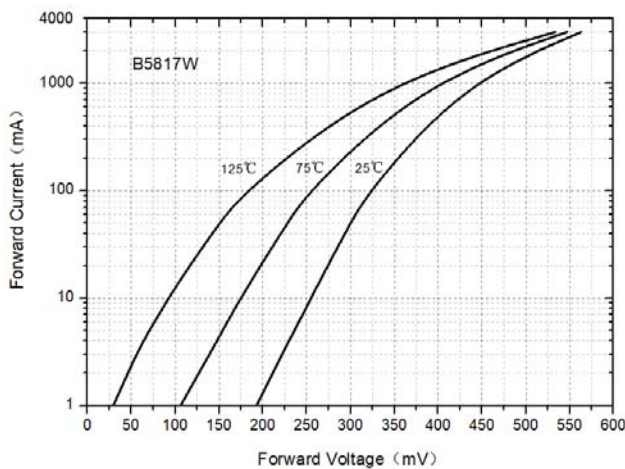
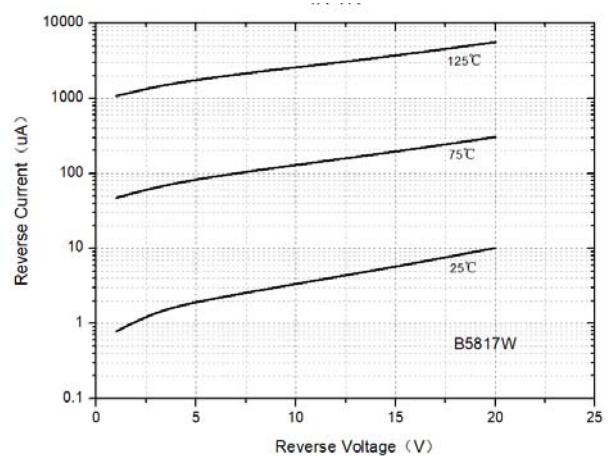


Fig 4: Typical Reverse Characteristics



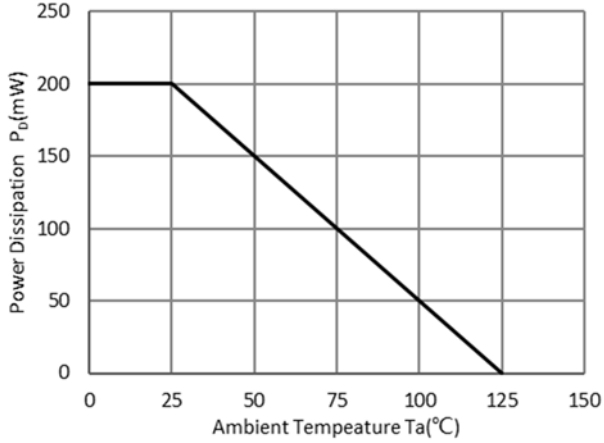


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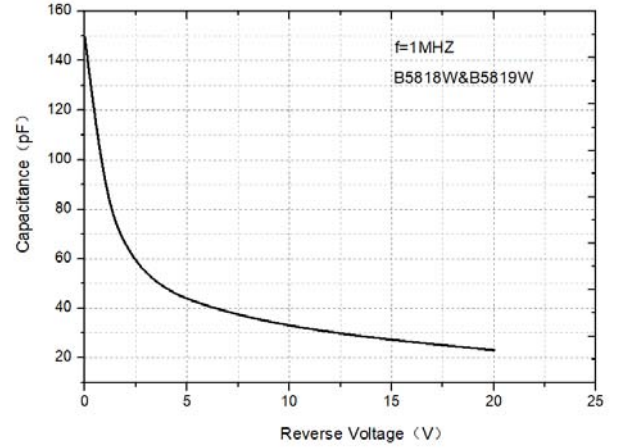
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## B5818W & B5819W

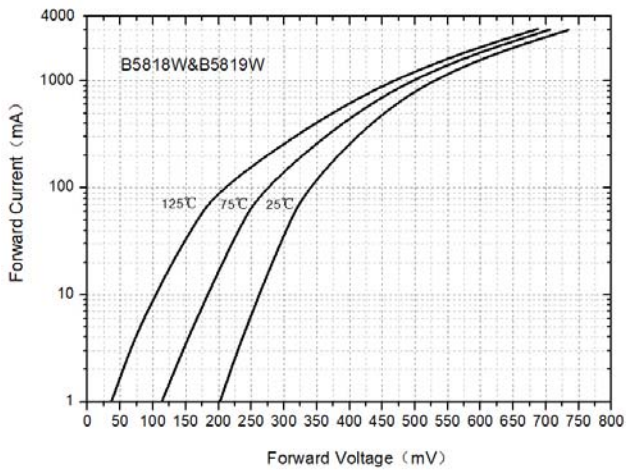
**Fig 1: P<sub>D</sub>-T<sub>a</sub> Curve**



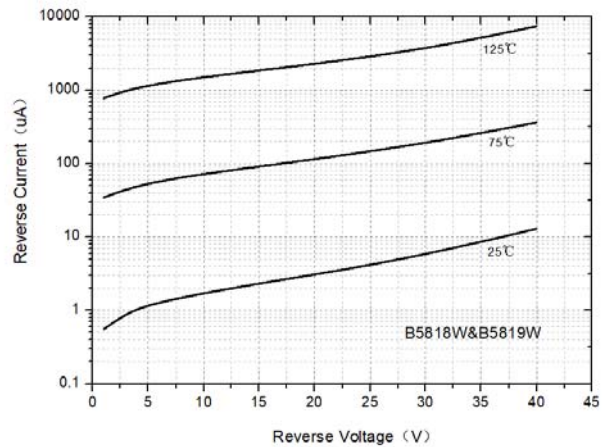
**Fig 2: Capacitance Capability**



**Fig 3: Typical Forward Characteristics**



**Fig 4: Typical Reverse Characteristics**





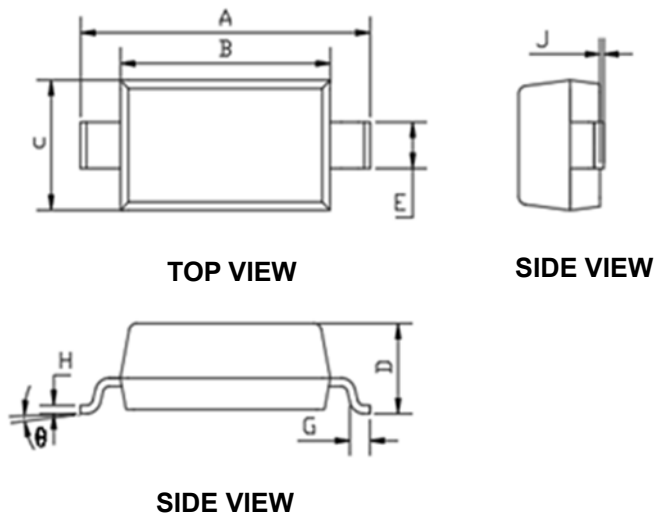
# B5817W THRU B5819W

RoHS  
COMPLIANT

## Ordering Information

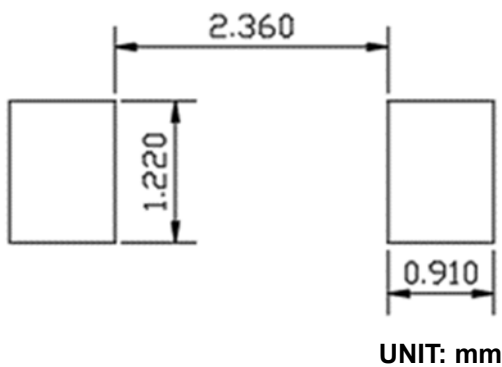
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
B5817W THRU B5819W	F2	Approximate 0.011	3000	30000	120000	7" reel
B5817W THRU B5819W	F3	Approximate 0.011	10000	/	210000	13" reel

## Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MM	MAX
A	0.140	0.152	3.550	3.850
B	0.100	0.112	2.550	2.850
C	0.055	0.071	1.400	1.800
D	0.037	0.053	0.950	1.350
E	0.020	0.028	0.510	0.710
G	0.006	0.018	0.150	0.450
H	0.003	0.010	0.080	0.250
J	0.000	0.006	0.000	0.150
θ	0	8°	0	8°

## Suggested Pad Layout





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