

B5817WS THRU B5819WS

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-323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ Maximum Ratings ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Value	
Device marking code			B5817WS	SJ
			B5818WS	SK
			B5819WS	SL
Repetitive peak reverse voltage	V_{RRM}	V	B5817WS	20
			B5818WS	30
			B5819WS	40
Forward current	I_F	A	1	
Non-repetitive surge peak forward current @ t=8.3ms half-sine wave	I_{FSM}	A	10	
Non-repetitive surge peak forward current @ t=1ms square wave			15	

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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 ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Conditions	Min	Typ	Max
Reverse voltage	V_R	V	B5817WS	20		
			B5818WS	30		
			B5819WS	40		
Forward voltage	V_{F1}	V	B5817WS			0.45
			B5818WS			0.55
			B5819WS			0.60
	V_{F2}	V	B5817WS			0.75
			B5818WS			0.875
			B5819WS			0.90
Reverse leakage current	I_R	μA	B5817WS	$V_R=20\text{V}$		200
			B5818WS	$V_R=30\text{V}$		40
			B5819WS	$V_R=40\text{V}$		40
Junction capacitance	C_j	pF	$V_R=4\text{V}, f=1\text{MHZ}$			120

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■ Thermal Characteristics

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

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Fig 1: P_D - T_a Curve

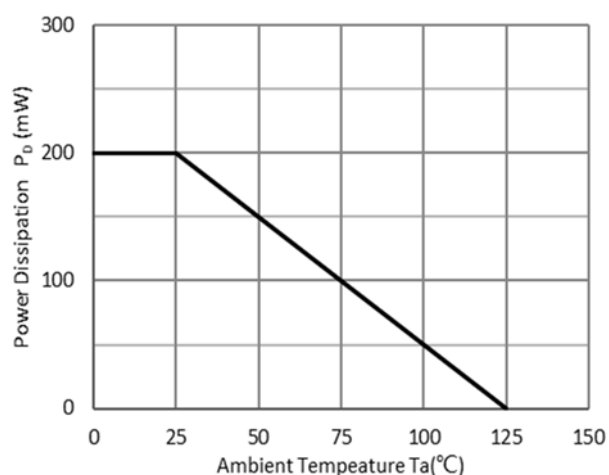


Fig 2: Capacitance Capability

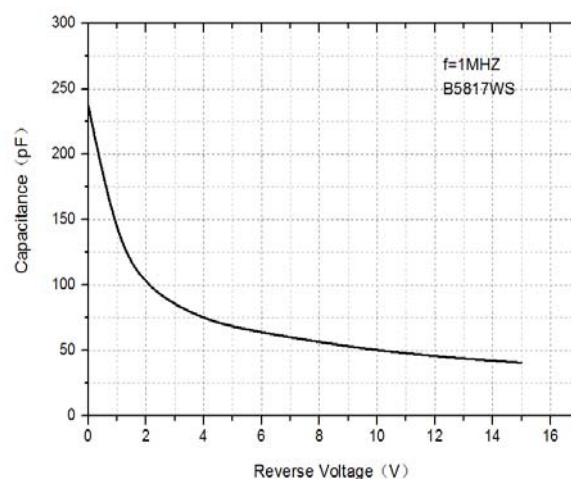


Fig 3: Typical Forward Characteristics

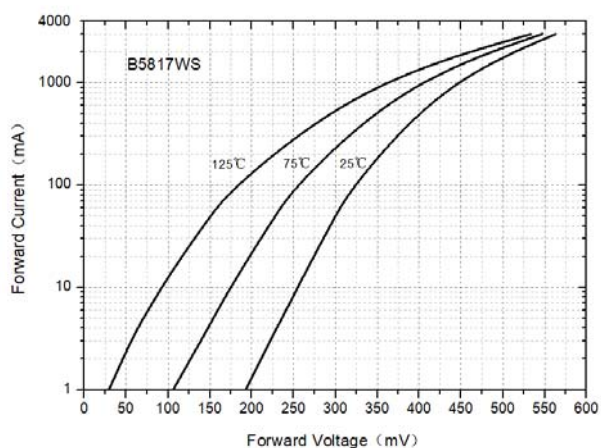
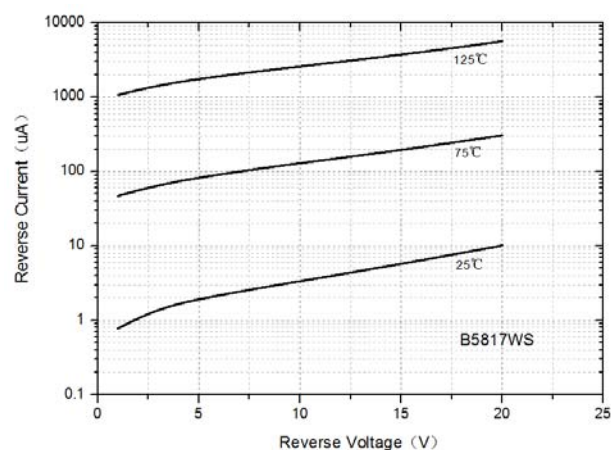


Fig 4: Typical Reverse Characteristics



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Fig 1: P_D-T_a Curve

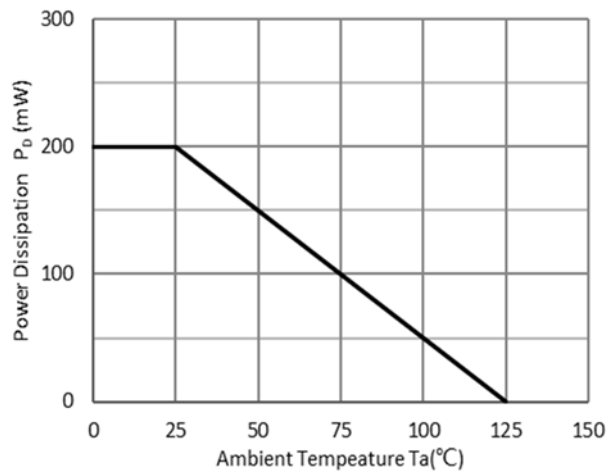


Fig 2: Capacitance Capability

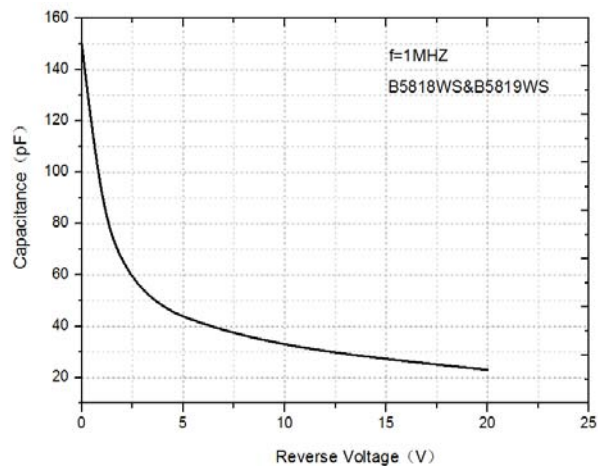


Fig 3: Typical Forward Characteristics

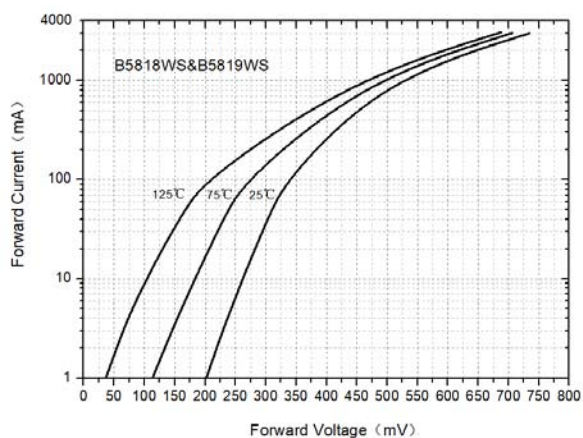
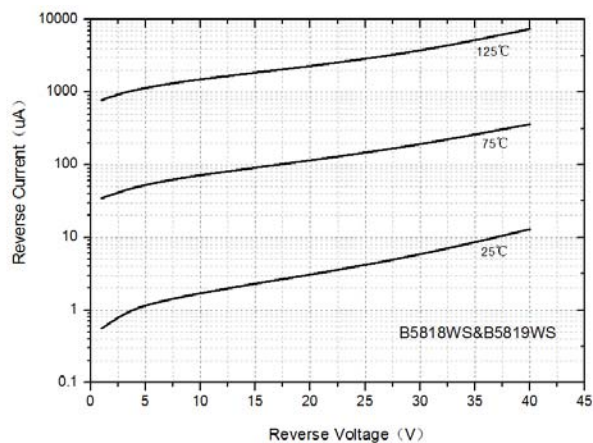


Fig 4: Typical Reverse Characteristics

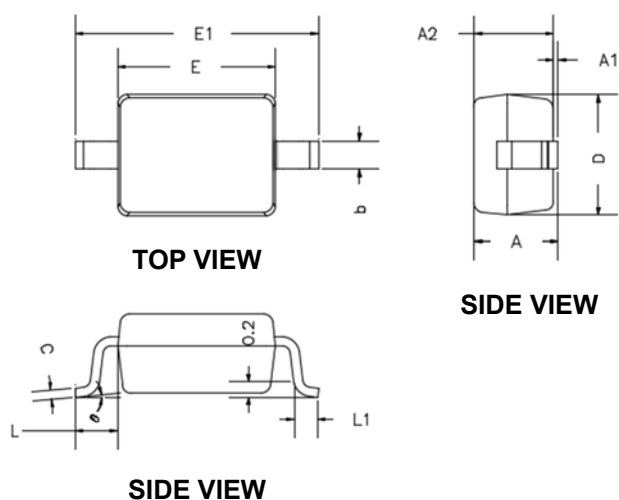


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■ Ordering Information

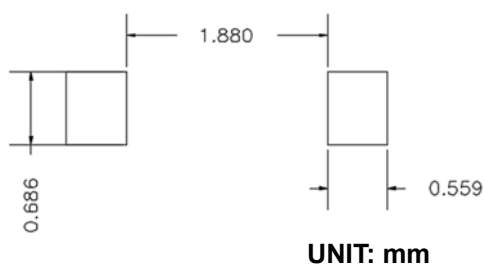
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
B5817WS THRU B5819WS	F2	Approximate 0.0048	3000	30000	120000	7" reel
B5817WS THRU B5819WS	F3	Approximate 0.0048	10000	/	210000	13" reel

■ Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	---	0.0393	---	1.0000
A1	0.0000	0.0039	0.0000	0.1000
A2	0.0314	0.0354	0.8000	0.9000
b	0.0098	0.0157	0.2500	0.4000
c	0.0031	0.0059	0.0800	0.1500
D	0.0472	0.0551	1.2000	1.4000
E	0.0629	0.0709	1.6000	1.8000
E1	0.0984	0.1063	2.5000	2.7000
L	0.0187TYP		0.475TYP	
L1	0.0098	0.0157	0.250	0.400
e	0°	8°	0°	8°

■ Suggested Pad Layout



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