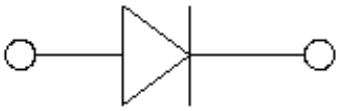
Small-Signal Schottky Barrier Diode



Features

- Moisture sensitivity level 1
- Reverse voltage: 40V
- Average forward current : 750mA

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℃ Unless otherwise specified)

Parameter	Symbol	Unit	Value
Device marking code			2G
Repetitive peak reverse voltage	V_{RRM}	V	40
Forward current	I_F	mA	750
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			5
Repetitive Peak Forward Current@tp=1ms, δ=0.25	I_{FRM}	A	2.5
Power dissipation	P_D	mW	380
Junction temperature	T_J	℃	-55 to +150
Storage temperature	T_{STG}	℃	-55 to +150

■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Parameter	Symbol	Unit	Conditions	Min	Typ	Max
Breakdown voltage	V_R	V	I_R=1mA	40		
Forward voltage	V_{F1}	V	I_F=10mA		0.29	0.38
	V_{F2}	V	I_F=100mA		0.37	0.47
	V_{F3}	V	I_F=250mA		0.42	0.54
	V_{F4}	V	I_F=500mA		0.48	0.64
	V_{F5}	V	I_F=750mA		0.54	0.74
Reverse leakage current	I_{R1}	uA	V_R=30V		1.2	5
	I_{R2}	uA	V_R=40V		2	8
Junction capacitance	Cj	pF	V_R=10V, f =1MH$_Z$		15	

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	RθJ-A(1)	℃/W	330
Thermal resistance, junction-to-case	RθJ-C(1)	℃/W	264

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

Fig 1：P_D-Ta Curve

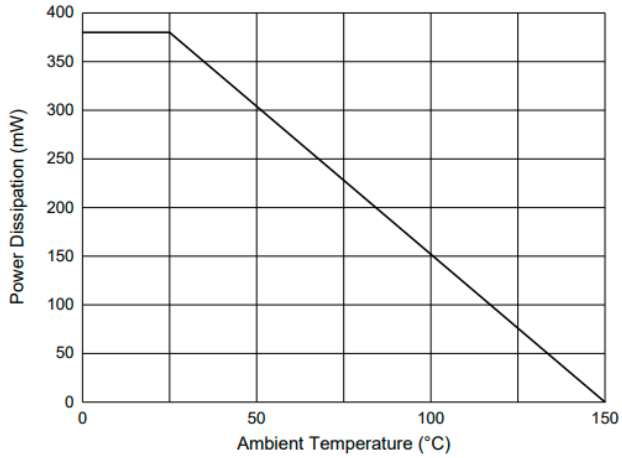


Fig 2：Capacitance Capability

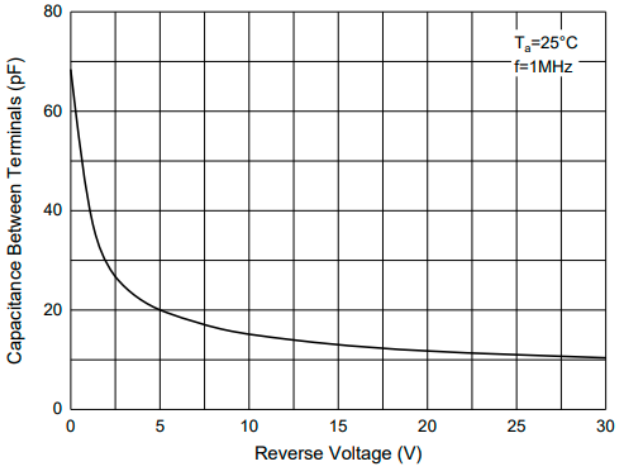


Fig 3：Typical Forward Characteristics

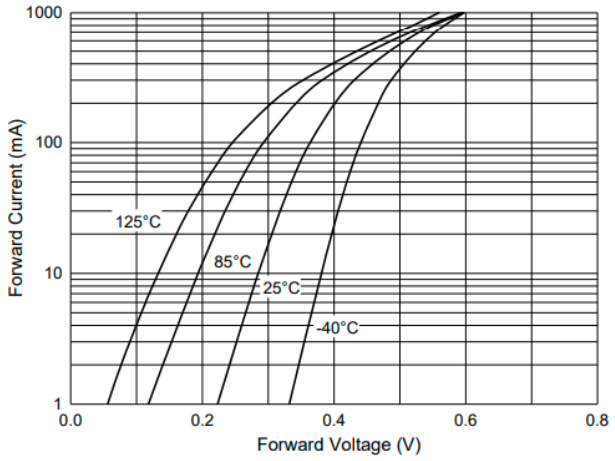
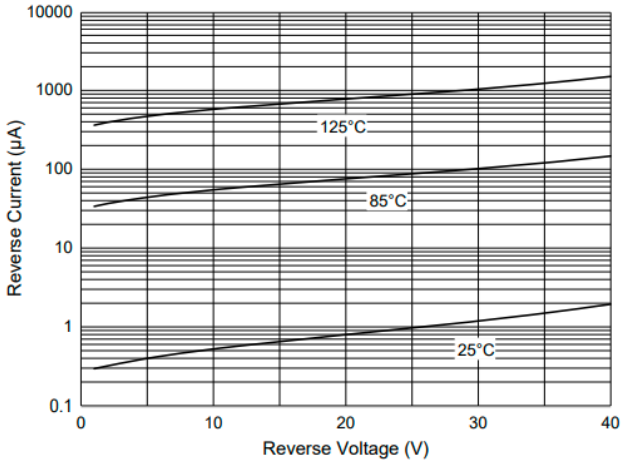


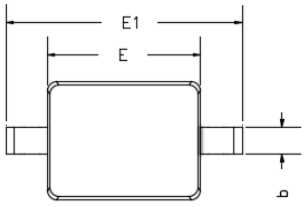
Fig 4：Typical Reverse Characteristics



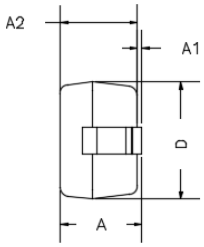
■Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BAT165WS	F2	Approximate 0.0048	3000	30000	120000	7” reel
BAT165WS	F3	Approximate 0.0048	10000	/	210000	13” reel

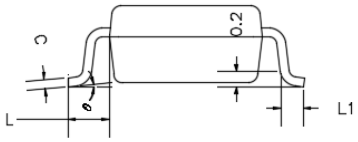
■ Outline Dimensions



TOP VIEW



SIDE VIEW

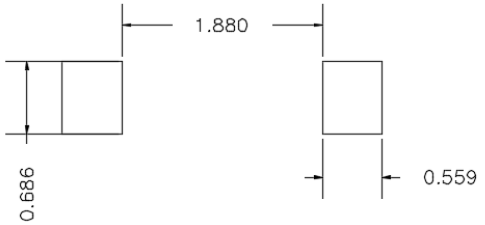


SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	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
θ	0°	8°	0°	8°

Note:
1. All dimensions are in millimeters (mm) unless otherwise specified.
[所有尺寸均以毫米为单位，除非另有说明]
2. General tolerances: ±0.10mm unless otherwise specified.
[通用公差为±0.10mm，除非另有说明]
3. Dimensions and tolerances per ASME Y14.5M-2018.
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
4.All dimensions shown are exclusive of burrs and gate residues.
Burrs and gate vestiges shall not exceed 0.15 mm in maximum.
[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]
5.Dimension b does not include dambar protrusion of max 0.100 mm per side.
[尺寸b不包括单边最大0.100 MM的中筋凸出部分]
6.Dimensions D and E are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.
[D和E是塑封体的外部极限尺寸，不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了包封错位的最大尺寸]
7.Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.
[成型的管脚应为同一平面，共面性最大为0.1mm]

■ Suggested Pad Layout



UNIT: mm

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