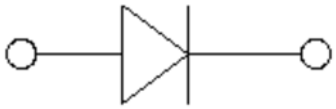
STAR SEA

BAT54W

RoHS COMPLIANT

Schottky Rectifier





Features

- Moisture sensitivity level 1
- Reverse voltage: 30V
- Average forward current : 0.2A

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_a=25℃ Unless otherwise specified)

Parameter	Symbol	Unit	Value
Device marking code			L9
Repetitive peak reverse voltage	V_{RRM}	V	30
Forward current	I_F	A	0.2
Non-repetitive surge peak forward current @ t=8.3ms half-sine wave	I_{FSM}	A	0.6
Non-repetitive surge peak forward current @ t=1ms square wave			0.6
Repetitive Peak Forward Current@ tp=1ms, δ=0.25	I_{FRM}	A	0.3
Power dissipation	P_D	mW	500
Junction temperature	T_J	℃	-55 to +125
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=100uA	30		
Forward voltage	V_{F1}	V	I_F=0.1mA			0.24
	V_{F2}	V	I_F=1mA			0.32
	V_{F3}	V	I_F=10mA			0.4
	V_{F4}	V	I_F=30mA			0.5
	V_{F5}	V	I_F=100mA			1
Reverse leakage current	I_R	uA	V_R=25V			2
Junction capacitance	Cj	pF	V_R=1V, f =1MHz			10
Reverse recovery time	Trr	ns	I_F=I_R=10mA,Irr=1mA, R_L=100Ω			5

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}$(1)	℃/W	200
Thermal resistance, junction-to-case	$R_{\theta J-C}$(1)	℃/W	160

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

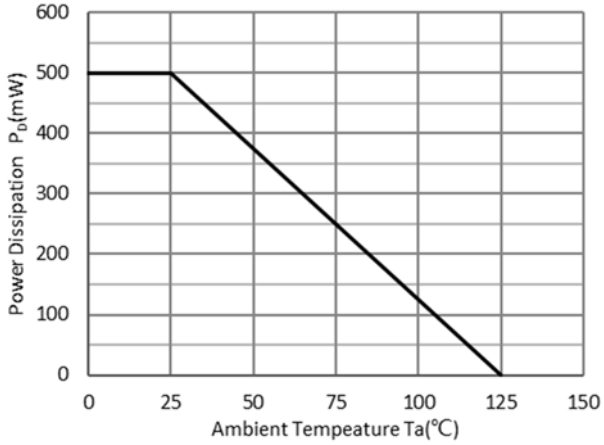


Fig 2：Capacitance Capability

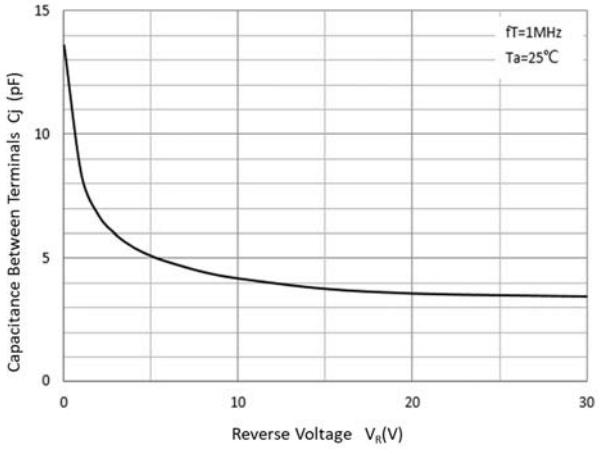


Fig 3：Typical Forward Characteristics

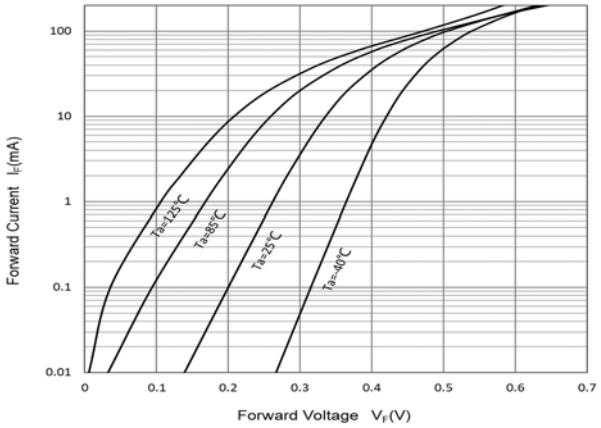
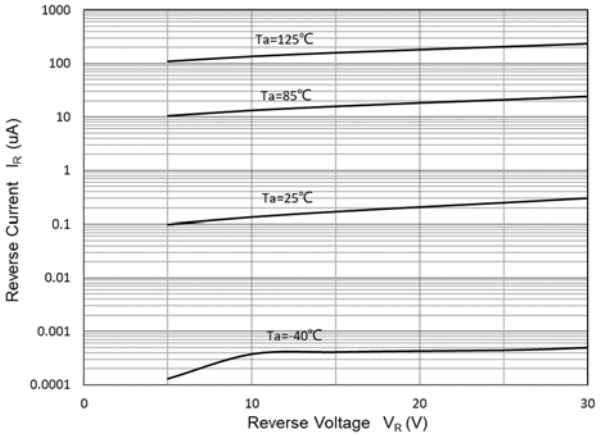


Fig 4：Typical Reverse Characteristics

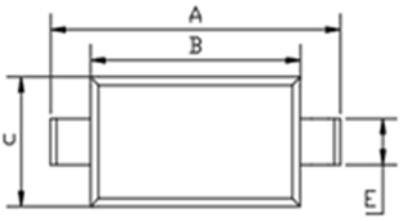


BAT54W

■Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BAT54W	F2	Approximate 0.011	3000	30000	120000	7” reel
BAT54W	F3	Approximate 0.011	10000	/	210000	13” reel

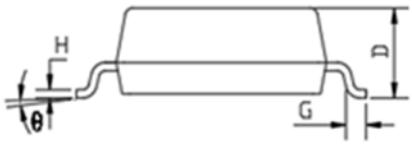
■ Outline Dimensions



TOP VIEW



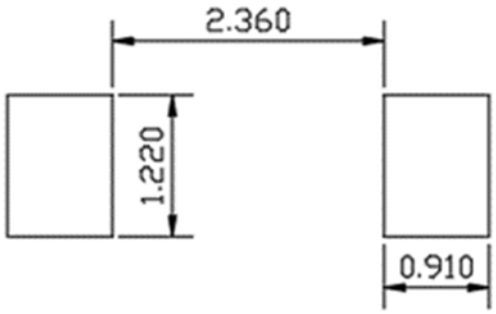
SIDE VIEW



SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	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



UNIT: mm

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 B and C 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.
[B和C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]

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