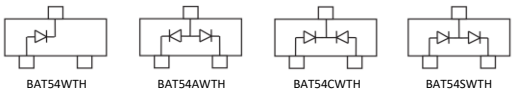
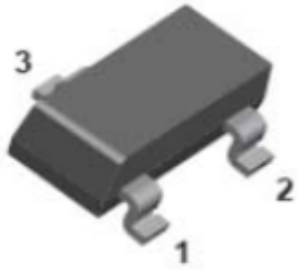
Schottky Barrier Diode





Features

- Moisture sensitivity level 1
- Reverse voltage: 30V
- Average forward current : 200mA

Application

- High frequency and low voltage rectifier

Mechanical data

- **Package**: SOT-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			BAT54WTH	KL5H
			BAT54AWTH	KL6H
			BAT54CWTH	KL7H
			BAT54SWTH	KL8H
Repetitive peak reverse voltage	V_{RRM}	V	30	
Forward current	I_F	mA	200	
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	200	
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
Reverse voltage	V_R	V	I_R=0.1mA	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=1.0V,f=1MHz		10	
Reverse recovery time	Trr	ns	I_F=I_R=10mA, Irr=0.1*I_R,R_L=100Ω			5

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	RθJ-A(1)	℃/W	625
Thermal resistance, junction-to-case	RθJ-C(1)	℃/W	500

Note:

（1）Device mounted on PCB, single-sided copper，with standard footprint

■Characteristics

Fig 1：P_D-Ta Curve

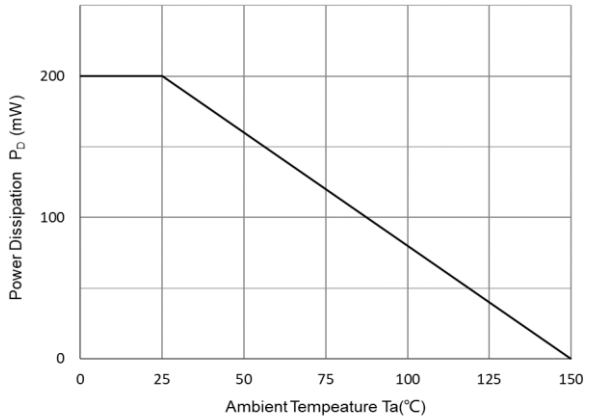


Fig 2：Capacitance Capability

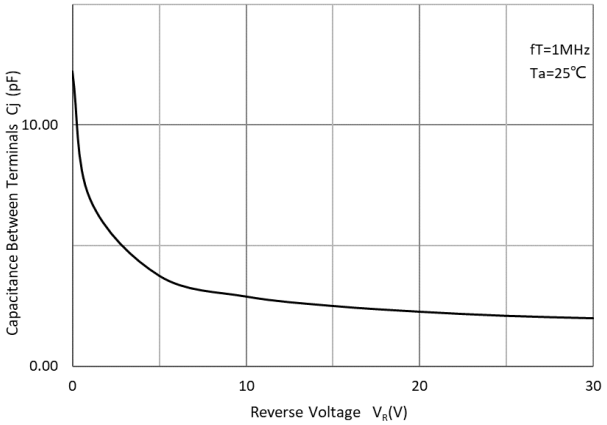


Fig 3：Typical Forward Characteristics

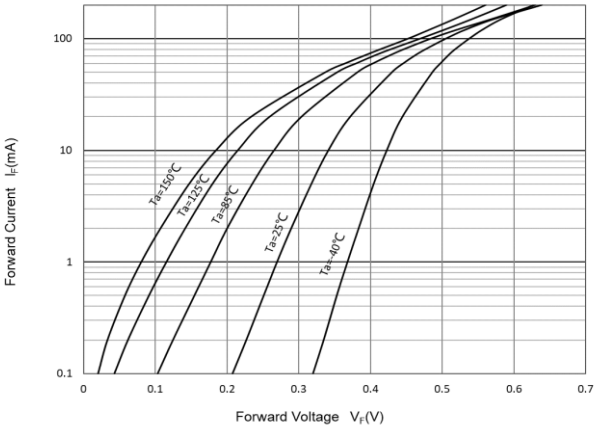
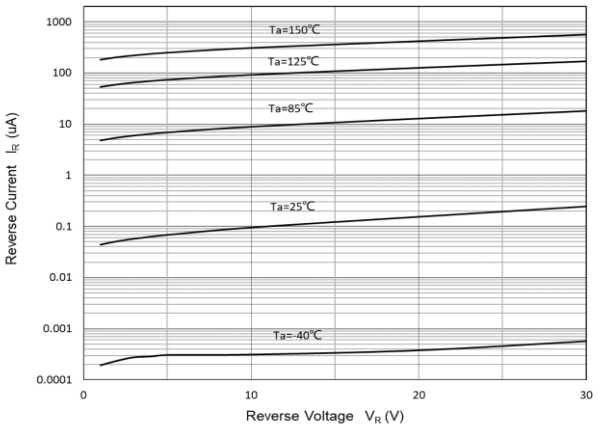


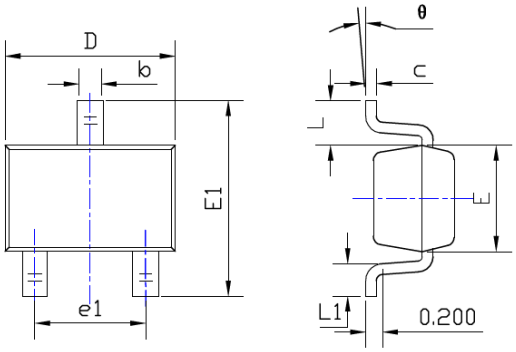
Fig 4：Typical Reverse Characteristics



■Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity (pcs)	Delivery mode
BAT54WTH THRU BAT54SWTH	F2	Approximate 0.005	3000	30000	120000	7" reel

■ Outline Dimensions



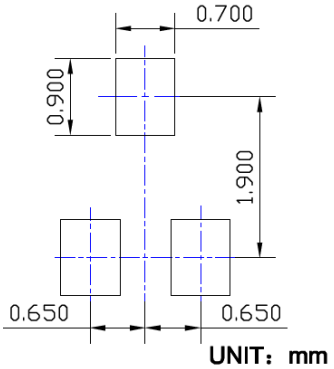
TOP VIEW

SIDE VIEW

SIDE VIEW

DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
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 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]

Notice

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise. Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.