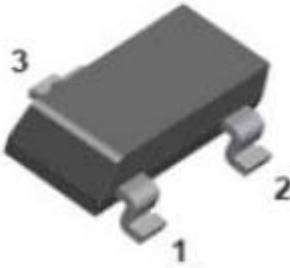
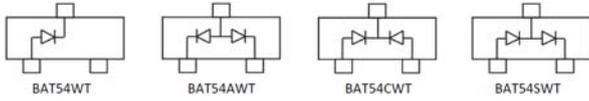


## Schottky Barrier Diode



### 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<sub>a</sub>=25°C Unless otherwise specified)

Parameter	Symbol	Unit	Value	
Device marking code			BAT54WT	KL5
			BAT54AWT	KL6
			BAT54CWT	KL7
			BAT54SWT	KL8
Repetitive peak reverse voltage	V <sub>RRM</sub>	V	30	
Forward current, per leg	I <sub>F</sub>	mA	200	
Non-repetitive surge peak forward current @ t=8.3ms half-sine wave	I <sub>FSM</sub>	A	0.6	
Non-repetitive surge peak forward current @ t=1ms square wave			0.6	
Power dissipation	P <sub>D</sub>	mW	200	
Junction temperature	T <sub>J</sub>	°C	-55 to +125	
Storage temperature	T <sub>STG</sub>	°C	-55 to +125	



## BAT54WT THRU BAT54SWT

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

Parameter	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse voltage	V <sub>R</sub>	V	I <sub>R</sub> =0.1mA	30		
Forward voltage	V <sub>F1</sub>	V	I <sub>F</sub> =0.1mA			0.24
	V <sub>F2</sub>	V	I <sub>F</sub> =1mA			0.32
	V <sub>F3</sub>	V	I <sub>F</sub> =10mA			0.4
	V <sub>F4</sub>	V	I <sub>F</sub> =30mA			0.5
	V <sub>F5</sub>	V	I <sub>F</sub> =100mA			1
Reverse leakage current	I <sub>R</sub>	uA	V <sub>R</sub> =25V			2
Junction capacitance	C <sub>j</sub>	pF	V <sub>R</sub> =1.0V, f=1MHz		10	
Reverse recovery time	T <sub>rr</sub>	ns	I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>rr</sub> =0.1*I <sub>R</sub> , R <sub>L</sub> =100Ω			5

### ■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R <sub>θJ-A</sub> <sup>(1)</sup>	°C/W	500
Thermal resistance, junction-to-case	R <sub>θJ-C</sub> <sup>(1)</sup>	°C/W	400

Note:

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



# BAT54WT THRU BAT54SWT

## ■ Characteristics

Fig 1:  $P_D$ - $T_a$  Curve

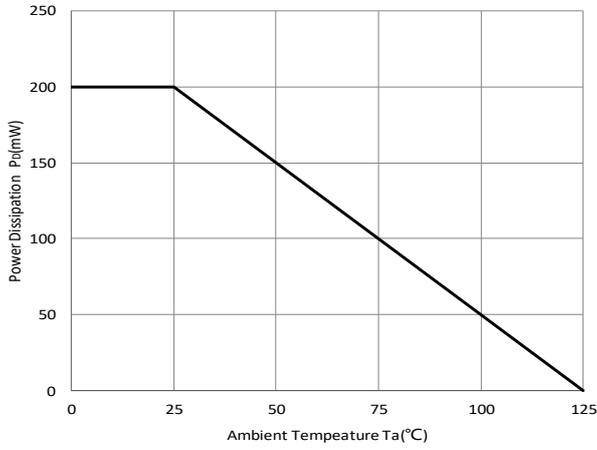


Fig 2: Capacitance Capability

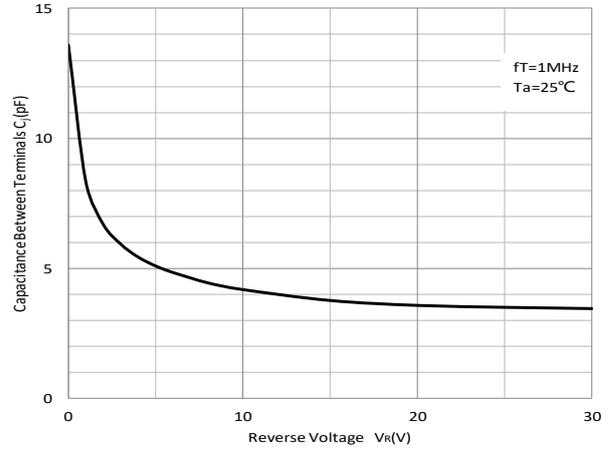


Fig 3: Typical Forward Characteristics

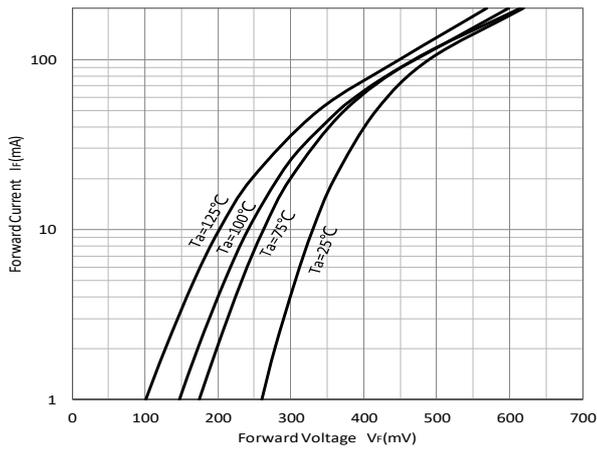
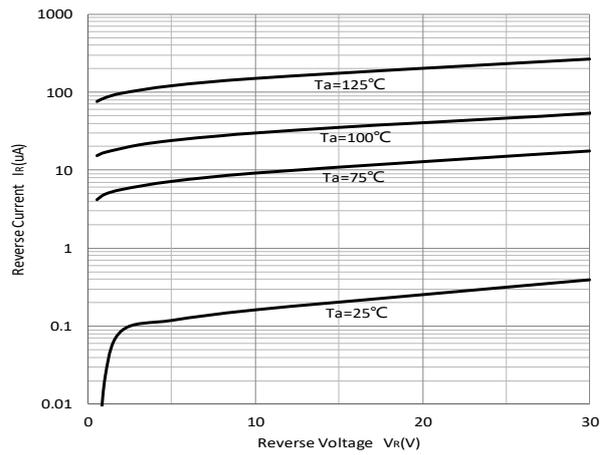


Fig 4: Typical Reverse Characteristics



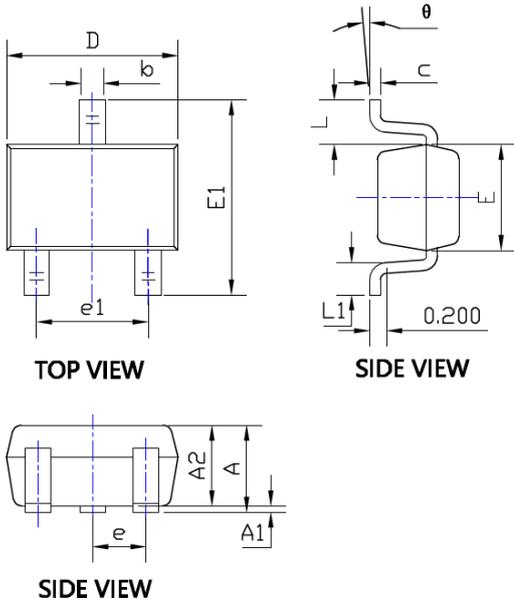


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## Ordering Information

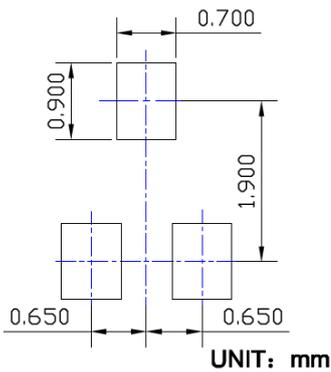
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity (pcs)	Delivery mode
BAT54WT THRU BAT54SWT	F2	Approximate 0.005	3000	30000	120000	7" reel

## Outline Dimensions



SYMBOL	DIMENSIONS			
	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



Note:

- 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]
- General tolerances:  $\pm 0.10\text{mm}$  unless otherwise specified.  
[通用公差为 $\pm 0.10\text{mm}$ , 除非另有说明]
- Dimensions and tolerances per ASME Y14.5M-2018.  
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
- 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]
- 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]
- 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小尺寸]
- 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]



## BAT54WT THRU BAT54SWT

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