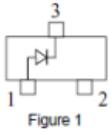
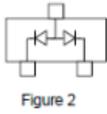


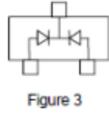
## Schottky Barrier Diode



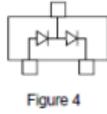
BAT54



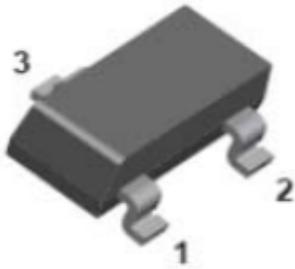
BAT54A



BAT54C



BAT54S



### Features

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

### Application

- High frequency and low voltage rectifier

### Mechanical data

- **Package:** SOT-23
- **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			BAT54	KL1
			BAT54A	KL2
			BAT54C	KL3
			BAT54S	KL4
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	
Repetitive Peak Forward Current@ tp=1ms, δ=0.25	I <sub>FRM</sub>	A	0.3	
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	



## BAT54 THRU BAT54S

### ■ 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> =1V, f=1MHz			10
Reverse recovery time	T <sub>rr</sub>	ns	I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>rr</sub> =1mA,			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



# BAT54 THRU BAT54S

## ■ Characteristics

Fig 1:  $P_D$ - $T_a$  Curve

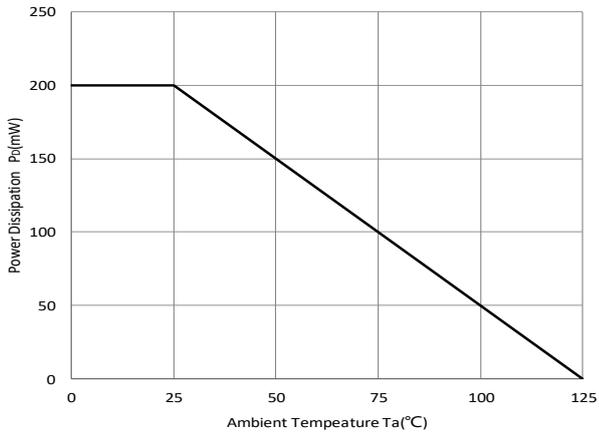


Fig 2: Capacitance Capability

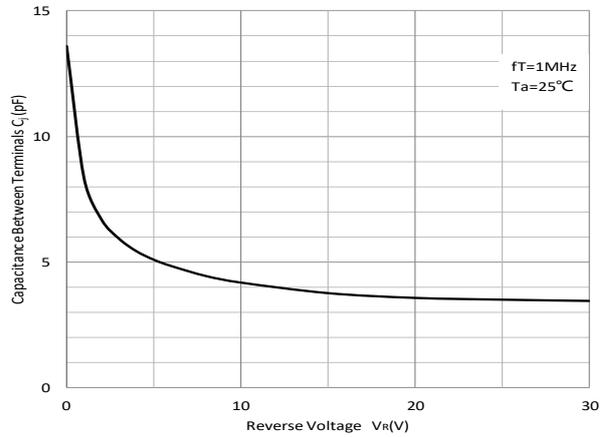


Fig 3: Typical Forward Characteristics

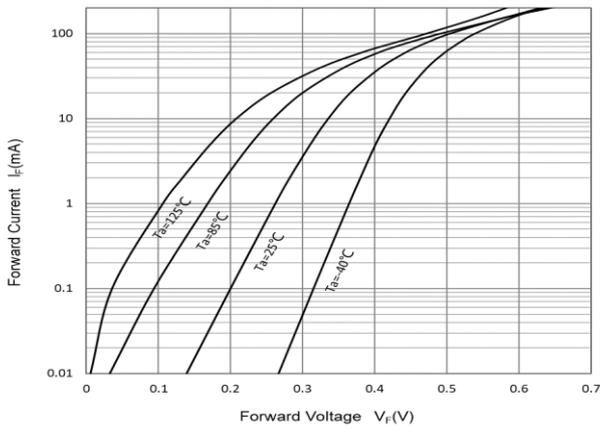
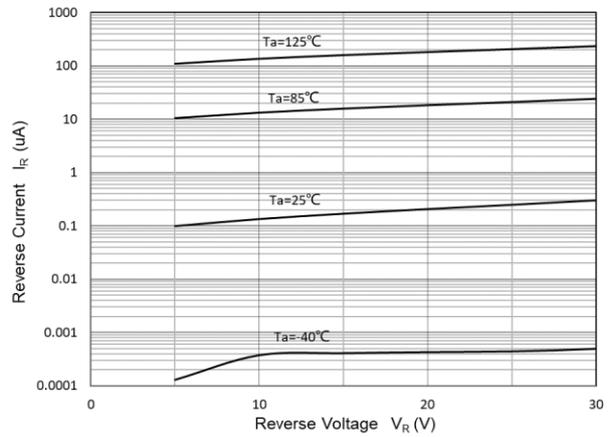


Fig 4: Typical Reverse Characteristics



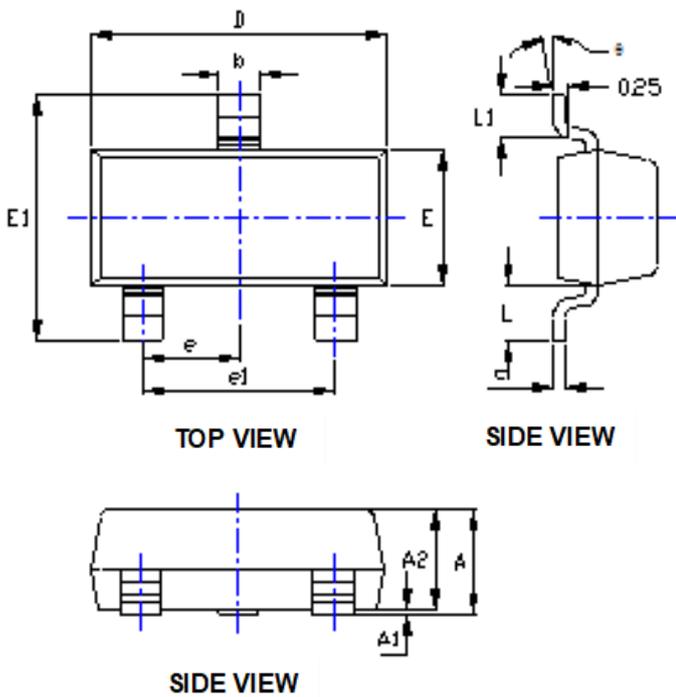


# BAT54 THRU BAT54S

## ■ Ordering Information

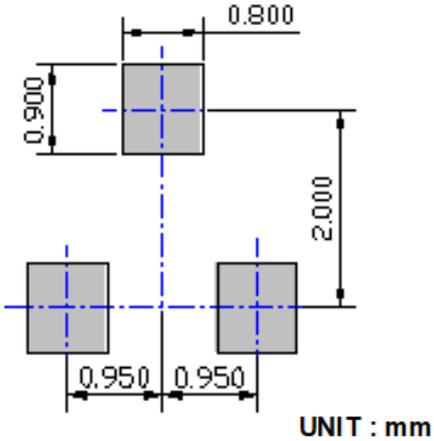
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity (pcs)	Delivery mode
BAT54	F2	Approximate 0.008	3000	30000	120000	7" reel
BAT54	F4	Approximate 0.008	10000	/	210000	13" reel
BAT54A	F2	Approximate 0.008	3000	30000	120000	7" reel
BAT54A	F4	Approximate 0.008	10000	/	210000	13" reel
BAT54C	F2	Approximate 0.008	3000	30000	120000	7" reel
BAT54C	F4	Approximate 0.008	10000	/	210000	13" reel
BAT54S	F2	Approximate 0.008	3000	30000	120000	7" reel
BAT54S	F4	Approximate 0.008	10000	/	210000	13" reel

## ■ Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

## ■ Suggested Pad Layout



### 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:  $\pm 0.10\text{mm}$  unless otherwise specified.  
[通用公差为 $\pm 0.10\text{mm}$ , 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]



## BAT54 THRU BAT54S

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