

Schottky Barrier Diode

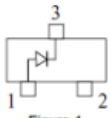


Figure 1

BAT54

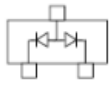


Figure 2

BAT54A

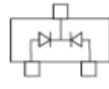


Figure 3

BAT54C

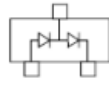
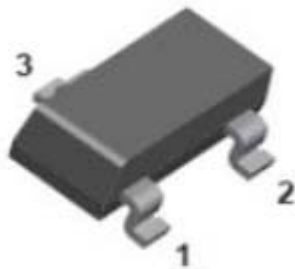


Figure 4

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_a=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 _{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	
Power dissipation	P _D	mW	200	
Junction temperature	T _J	°C	-55 to +125	
Storage temperature	T _{STG}	°C	-55 to +125	



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■ Electrical Characteristics (T_a=25°C 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	C _j	pF	V _R =1V, f=1MHz			10
Reverse recovery time	T _{rr}	ns	I _F =I _R =10mA, I _{rr} =1mA,			5

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	500
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/W	400

Note:

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



■ Characteristics

Fig 1: P_D - T_a Curve

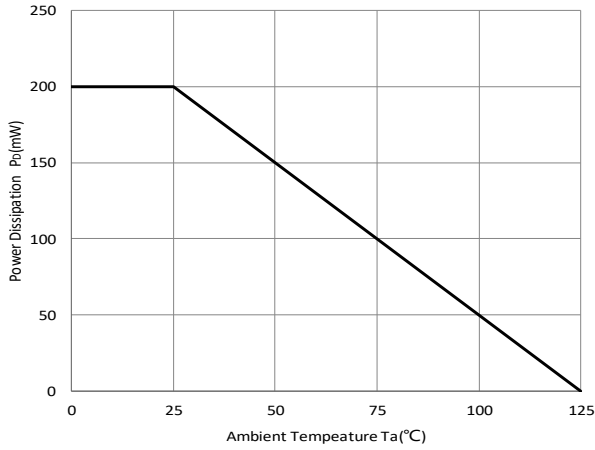


Fig 2: Capacitance Capability

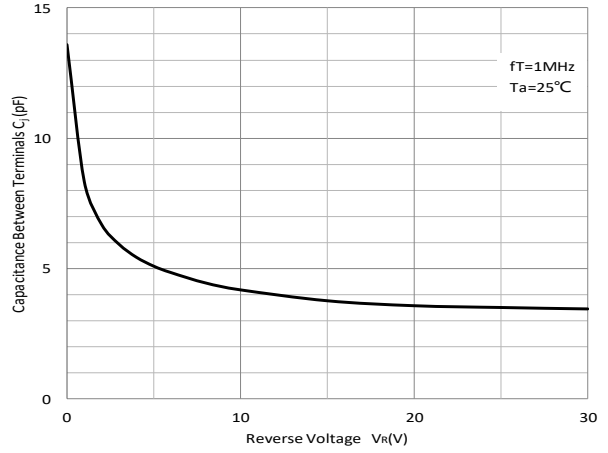


Fig 3: Typical Forward Characteristics

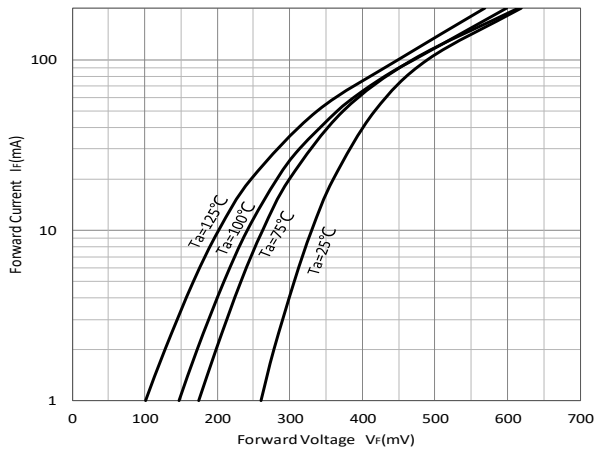
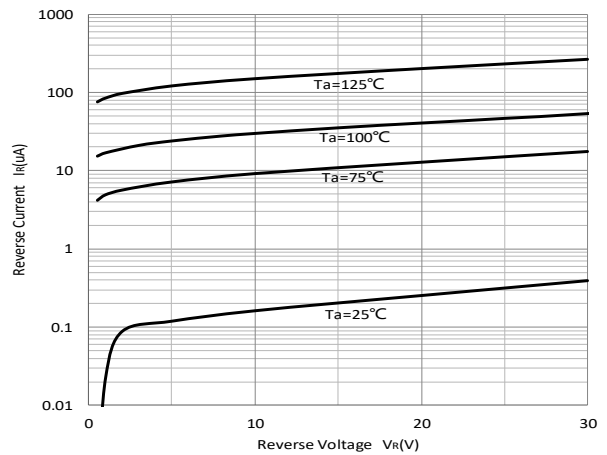


Fig 4: Typical Reverse Characteristics





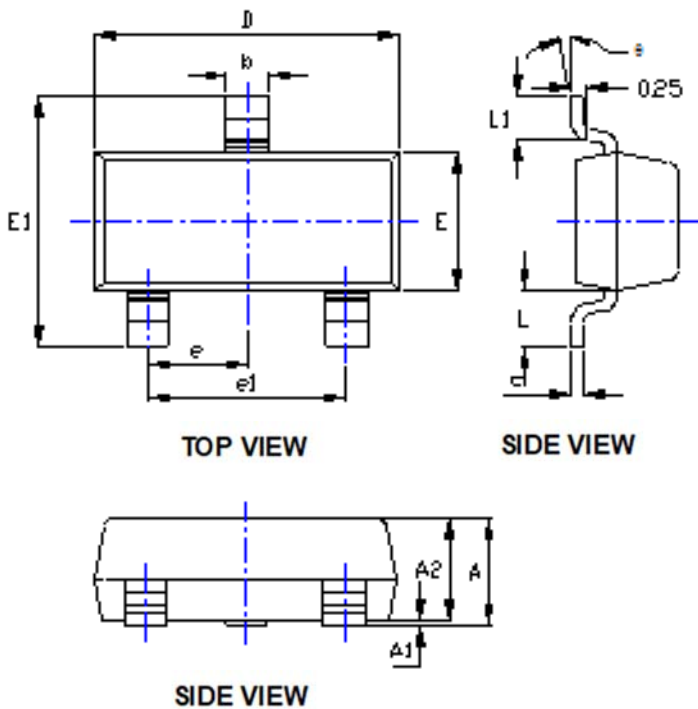
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Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity (pcs)	Delivery mode
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



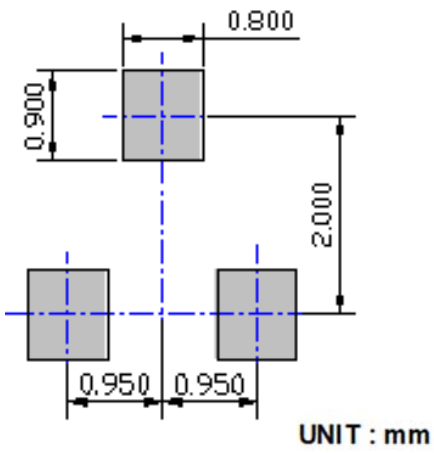
SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071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



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■ Suggested Pad Layout





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