

Schottky Barrier Diode

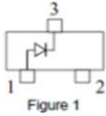


Figure 1

BAT41

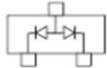


Figure 2

BAT51A

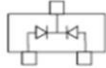


Figure 3

BAT41C

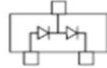
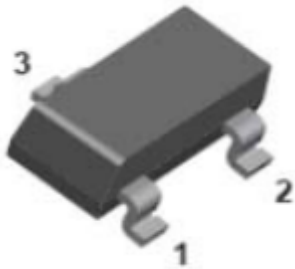


Figure 4

BAT41S



Features

- Moisture sensitivity level 1
- Reverse voltage: 100V
- 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 ($T_a=25^\circ\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Value	
Device marking code			BAT41	41B
			BAT41A	41A
			BAT41C	41
			BAT41S	41S
Repetitive peak reverse voltage	V_{RRM}	V	100	
Forward current	I_F	mA	200	
Non-repetitive Surge peak forward current @ $t=10\text{ms}$ square wave	I_{FSM}	A	1	
Repetitive Peak Forward Current@ $t_p=1\text{ms}$, $\delta=0.25$	I_{FRM}	A	0.5	
Power dissipation	P_D	mW	300	
Junction temperature	T_J	$^\circ\text{C}$	-55 to +150	
Storage temperature	T_{STG}	$^\circ\text{C}$	-55 to +150	



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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 =100uA	100		
Forward voltage	V _F	V	I _F =1mA			0.45
	V _{F2}	V	I _F =200mA			1
Reverse leakage current	I _R	uA	V _R =50V			0.1
Junction capacitance	C _J	pF	V _R =1V, f =1MHz			10
Reverse recovery time	T _{rr}	ns	I _F =I _R =10mA, I _{rr} =0.1*I _R ,R _L =100Ω			4

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	417
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/W	334

Note:

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



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■ Characteristics

Fig 1: P_D - T_a Curve

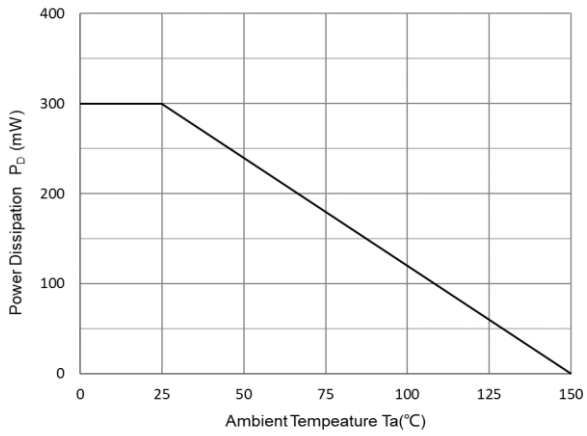


Fig 2: Capacitance Capability

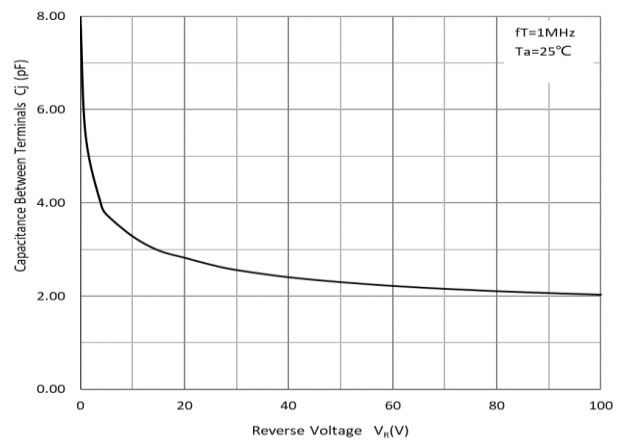


Fig 3: Typical Forward Characteristics

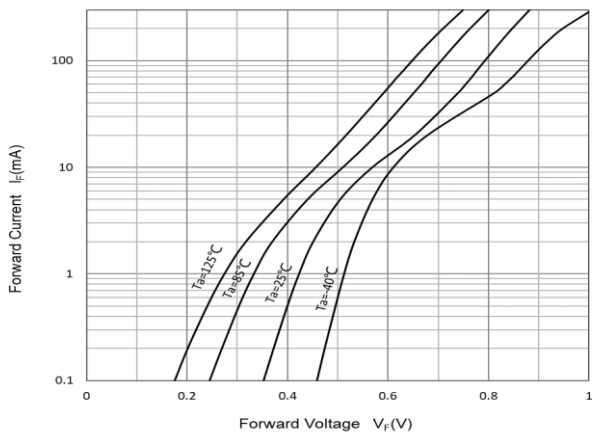
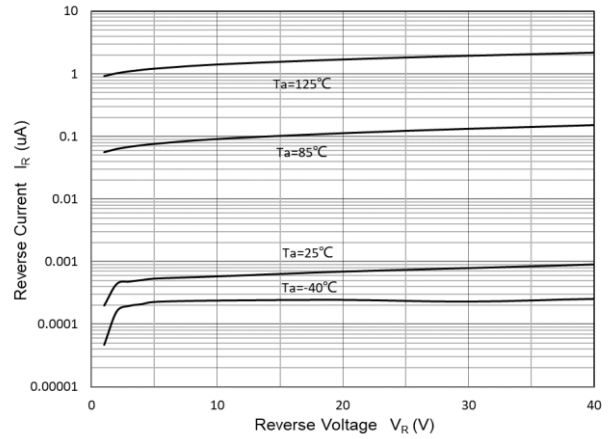


Fig 4: Typical Reverse Characteristics



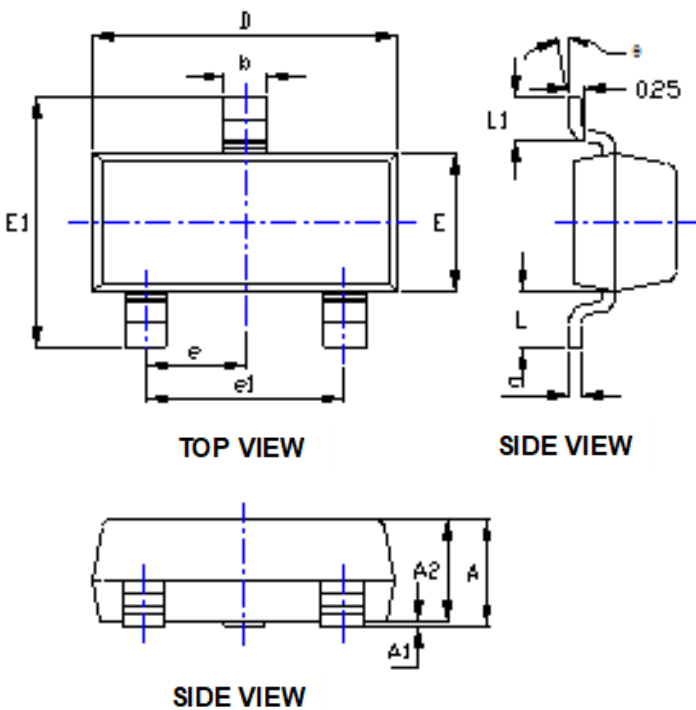


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■ Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity (pcs)	Delivery mode
BAT41	F2	Approximate 0.008	3000	30000	120000	7" reel
BAT41	F4	Approximate 0.008	10000	/	210000	13" reel
BAT41A	F2	Approximate 0.008	3000	30000	120000	7" reel
BAT41A	F4	Approximate 0.008	10000	/	210000	13" reel
BAT41C	F2	Approximate 0.008	3000	30000	120000	7" reel
BAT41C	F4	Approximate 0.008	10000	/	210000	13" reel
BAT41S	F2	Approximate 0.008	3000	30000	120000	7" reel
BAT41S	F4	Approximate 0.008	10000	/	210000	13" reel

■ Outline Dimensions

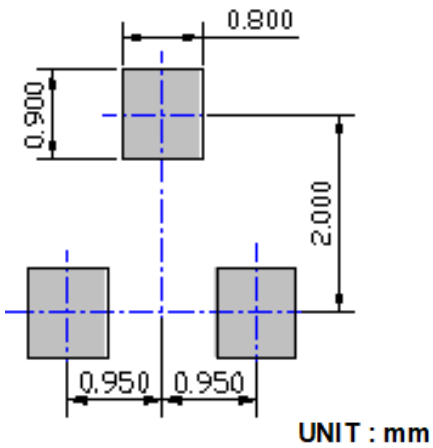


SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071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



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]



BAT41 THRU BAT41S

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