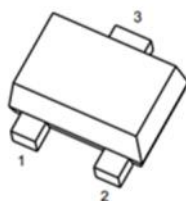
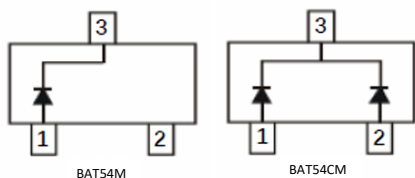




Small Signal Schottky Diode



SOT-723

Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic insertion
- Reverse voltage: 30V
- Average forward current : 200mA

Application

- High frequency and low voltage rectifier

Mechanical data

- **Package:** SOT-723
- **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			BAT54M	L1
			BAT54CM	KL3
Repetitive peak reverse voltage	V_{RRM}	V	30	
Forward current	I_F	mA	200	
Non-repetitive Surge peak forward current @ $t=8.3\text{ms}$ half-sine wave	I_{FSM}	A	0.6	
Repetitive Peak Forward Current@ $t_p=1\text{ms}$, $\delta=0.25$	I_{FRM}	A	0.3	
Power dissipation	P_D	mW	150	
Junction temperature	T_J	$^{\circ}\text{C}$	-55 to +150	
Storage temperature	T_{STG}	$^{\circ}\text{C}$	-55 to +150	



BAT54M THRU BAT54CM

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Reverse voltage	V _R	V	I _R =100uA	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 _{R1}	uA	V _R =25V			2
Junction capacitance	C _j	pF	V _R =1V, f=1MHz			10
Reverse recovery time	T _{rr}	ns	I _F =10mA, I _R =10mA, I _{rr} =1mA, R _L =100Ω			5

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	833
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/W	667

Note:

(1) Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 25.4mm*25.4mm copper pad areas



BAT54M THRU BAT54CM

■ Characteristics

Fig 1: P_D - T_a Curve

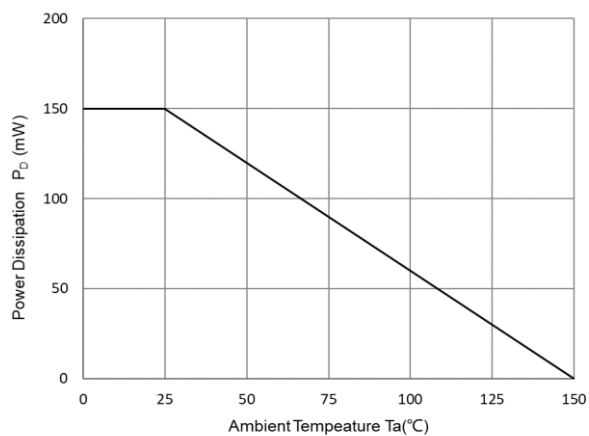


Fig 2: Capacitance Capability

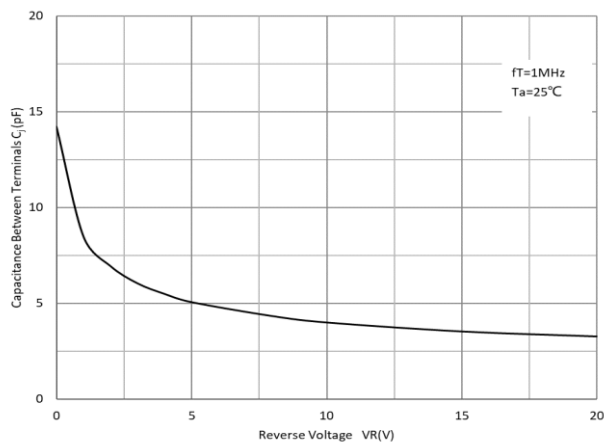


Fig 3: Typical Forward Characteristics

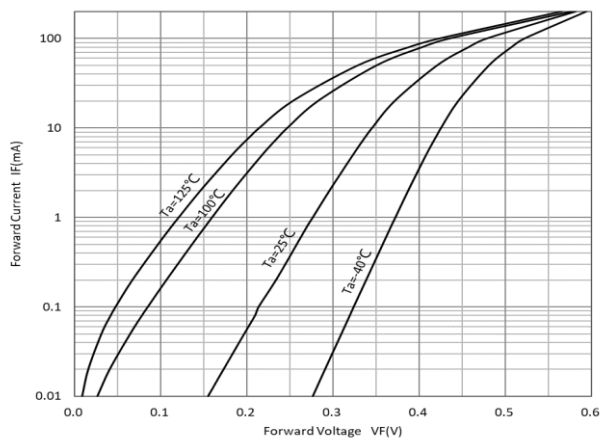
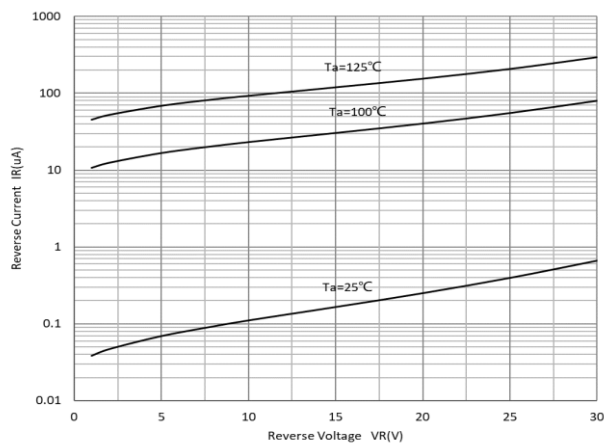


Fig 4: Typical Reverse Characteristics



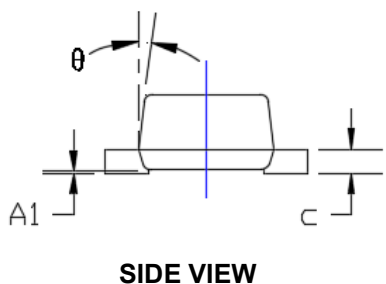
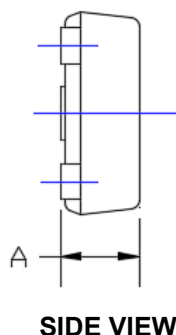
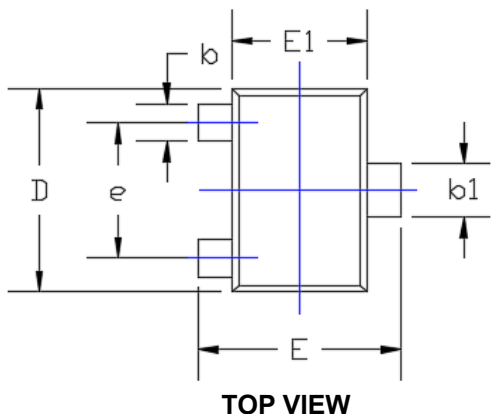


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■ Ordering Information

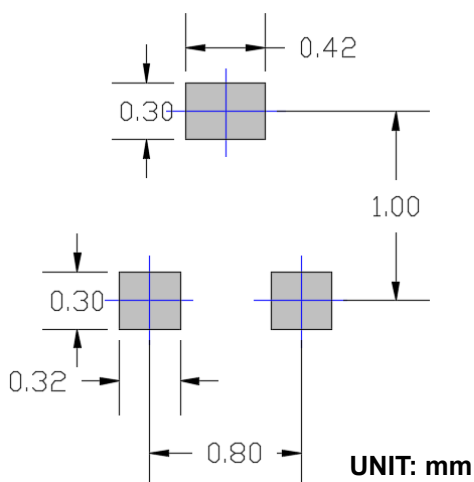
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BAT54M	F2	Approximate 0.0013	8000	80000	320000	7" reel
BAT54CM	F2	Approximate 0.0013	8000	80000	320000	7" reel

■ Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.017	0.022	0.430	0.550
A1	0.000	0.002	0.000	0.050
b	0.007	0.011	0.170	0.270
b1	0.011	0.015	0.270	0.370
c	0.003	0.008	0.080	0.200
D	0.045	0.049	1.150	1.250
E	0.045	0.049	1.150	1.250
E1	0.030	0.033	0.750	0.850
e	0.031TYP.		0.800TYP.	
θ	7°REF.		7°REF.	

■ 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的挡耳凸出部分]
6. Dimensions D and E1 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E1是封装体的外部极限尺寸，不包括封装溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了封装错位的最大尺寸]
7. Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.
[成型的引脚应为同一平面，共面性最大为0.1mm]



BAT54M THRU BAT54CM

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