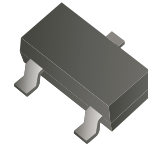


## BAT54-HF Series

RoHS Device  
Halogen Free



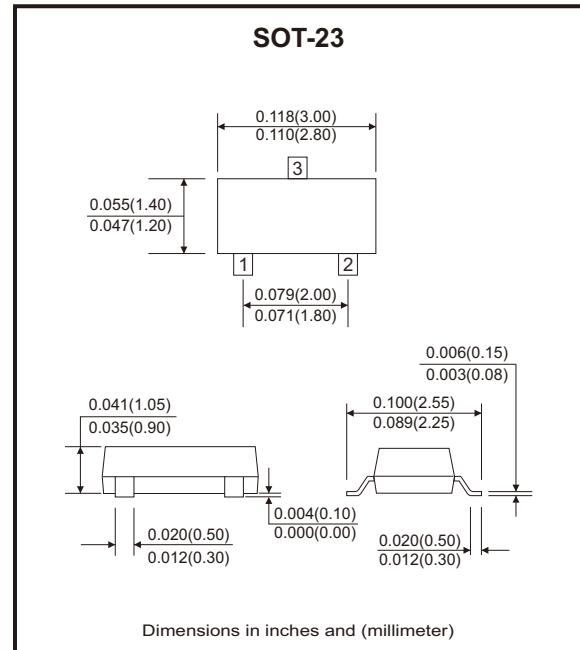
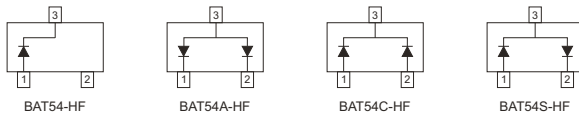
### Features

- High current capability.
- Low forward voltage drop.
- Extremely fast switching speed.

### Mechanical data

- Case: SOT-23, molded plastic.
- Epoxy : UL 94V-0.

### Circuit Diagram



### Maximum Rating (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Max. repetitive peak reverse voltage	VRRM	30	V
Max. RMS voltage	VRMS	21	V
Max. DC blocking voltage	VDC	30	V
Max. average forward rectified current	IFM	200	mA
Peak forward surge current 8.3 ms single half sine-wave	IFSM	600	mA
Typical thermal resistance	RθJA	500	°C/W
Power dissipation	PD	200	mW
junction temperature	TJ	-50 to +125	°C
Storage temperature range	TSTG	-50 to +150	°C

## Electrical Characteristics (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Maximum Forward voltage	V <sub>F1</sub>	I <sub>F</sub> =0.1mA			240	mV
	V <sub>F2</sub>	I <sub>F</sub> =1mA			320	
	V <sub>F3</sub>	I <sub>F</sub> =10mA			400	
	V <sub>F4</sub>	I <sub>F</sub> =30mA			500	
	V <sub>F5</sub>	I <sub>F</sub> =100mA			1000	
Maximum reverse breakdown voltage	V <sub>R</sub>	I <sub>R</sub> =100μA	30			V
Maximum reverse current	I <sub>R</sub>	V <sub>R</sub> =25V			2.0	μA
Type junction capacitance	C <sub>j</sub>	V <sub>R</sub> =1V, f=1MHz			10	pF
Reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>RR</sub> =0.1xI <sub>R</sub> , R <sub>L</sub> =100Ω			5	ns

## Rating and Characteristic Curves (BAT54-HF Series)

Fig.1 - Forward Characteristics

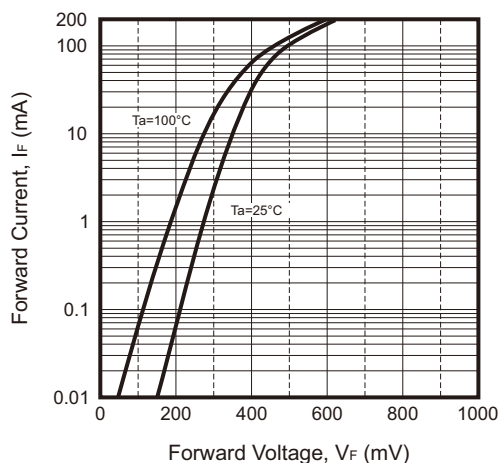


Fig.2 - Reverse Characteristics

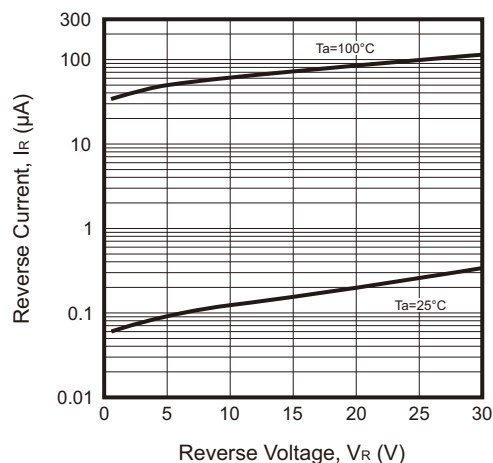


Fig.3 - Capacitance Characteristics

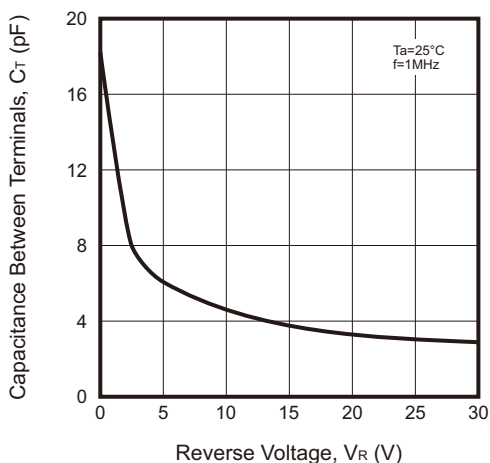
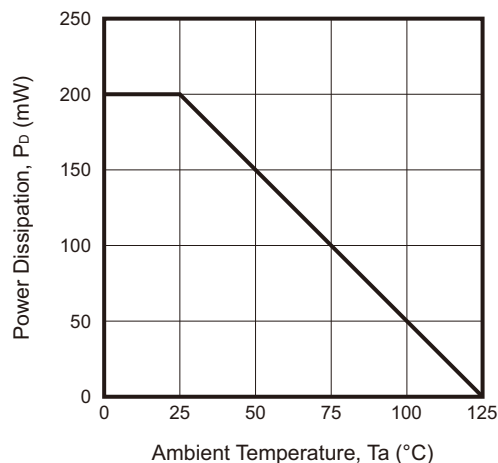
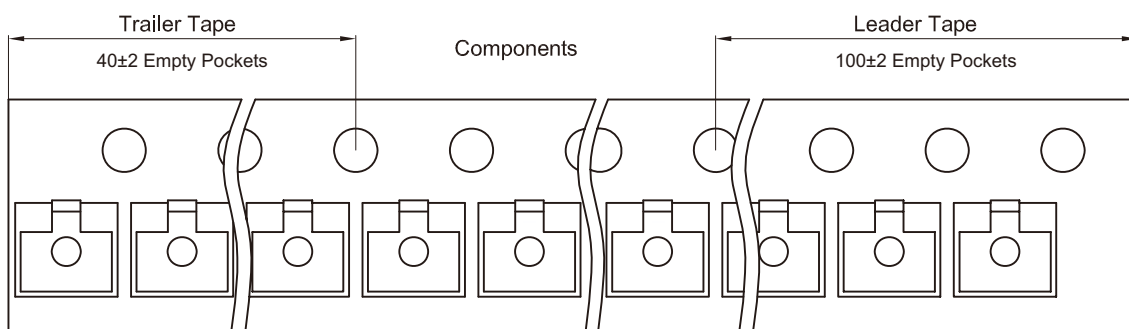
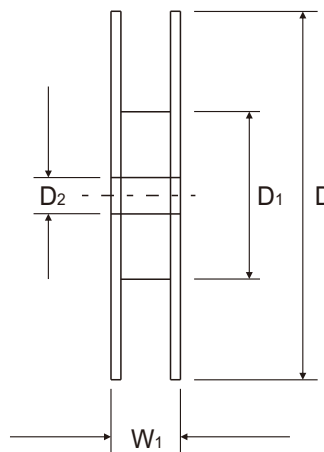
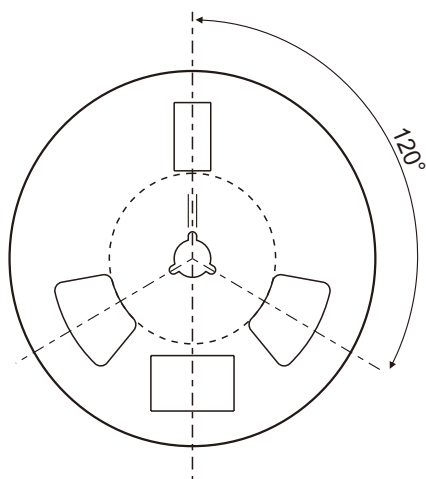
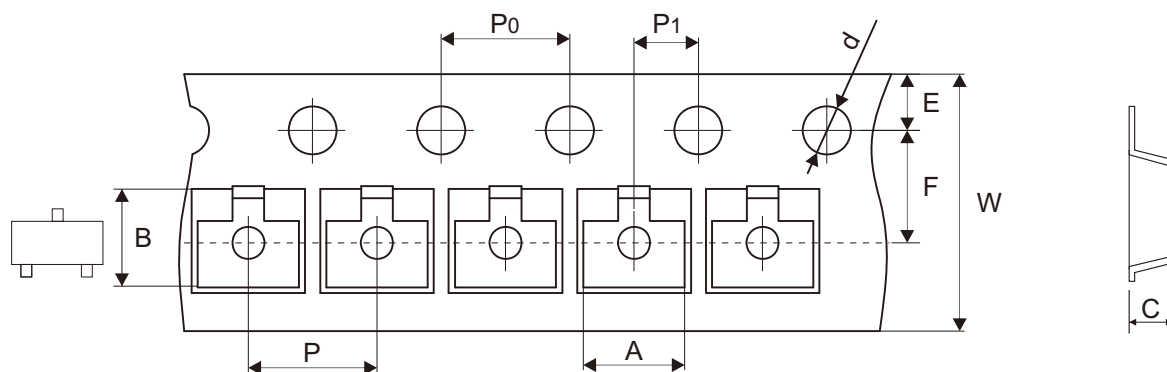


Fig.4 - Power Derating Curve



## Reel Taping Specification

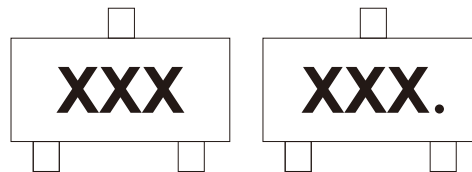


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	$3.15 \pm 0.10$	$2.77 \pm 0.10$	$1.22 \pm 0.10$	$1.50 \pm 0.10$	$178.00 \pm 2.00$	$54.40 \pm 1.00$	$13.00 \pm 1.00$
	(inch)	$0.124 \pm 0.004$	$0.109 \pm 0.004$	$0.048 \pm 0.004$	$0.059 \pm 0.004$	$7.008 \pm 0.079$	$2.142 \pm 0.039$	$0.512 \pm 0.039$

SOT-23	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	$1.75 \pm 0.10$	$3.50 \pm 0.10$	$4.00 \pm 0.10$	$4.00 \pm 0.10$	$2.00 \pm 0.10$	$8.00 \pm 0.10$	$12.30 \pm 1.00$
	(inch)	$0.069 \pm 0.004$	$0.138 \pm 0.004$	$0.157 \pm 0.004$	$0.157 \pm 0.004$	$0.079 \pm 0.004$	$0.315 \pm 0.004$	$0.472 \pm 0.039$

## Marking Code

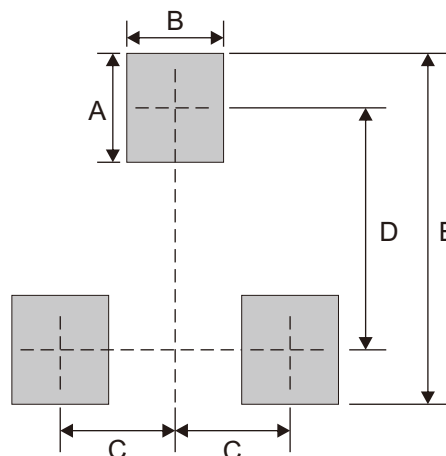
Part Number	Marking Code
BAT54-HF	KL1
BAT54A-HF	KL2
BAT54C-HF	KL3
BAT54S-HF	KL4



xxx = Product type marking code  
 Solid dot = Control code

## Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.90	0.035
B	0.80	0.031
C	0.95	0.037
D	2.00	0.079
E	2.90	0.114



Note: 1. The pad layout is for reference purposes only.

## Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-23	3,000	7