

SuperDiode – Plastic-Encapsulate Schottky Barrier Diode

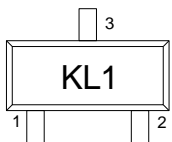
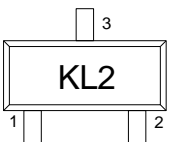
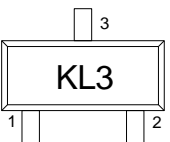
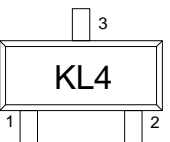
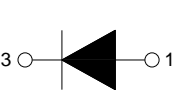
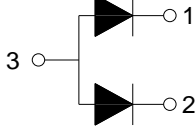
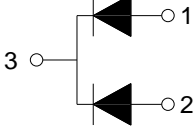
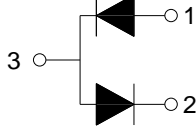
1. Features

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

2. Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

3. Marking and Circuit

BAT54	BAT54A	BAT54C	BAT54S
			
			

4. Specification

Absolute Maximum Rating & Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

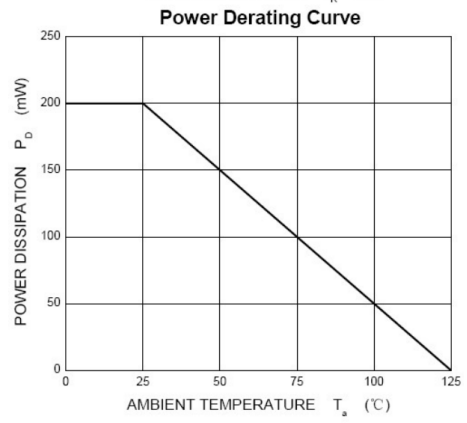
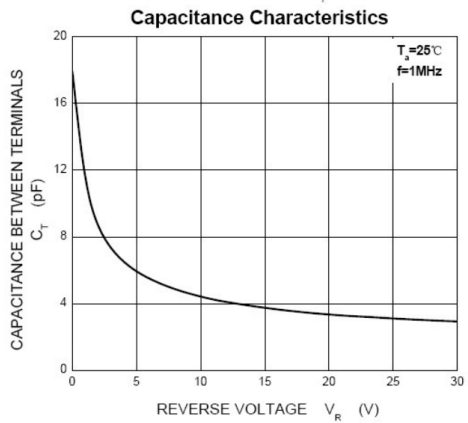
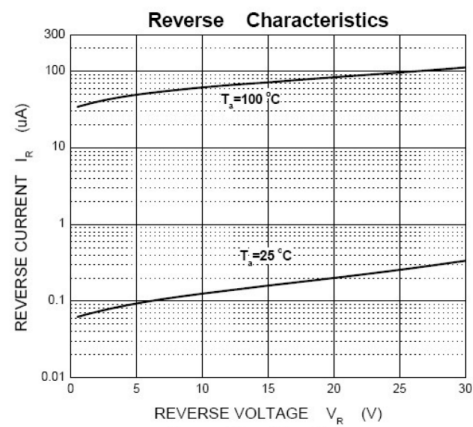
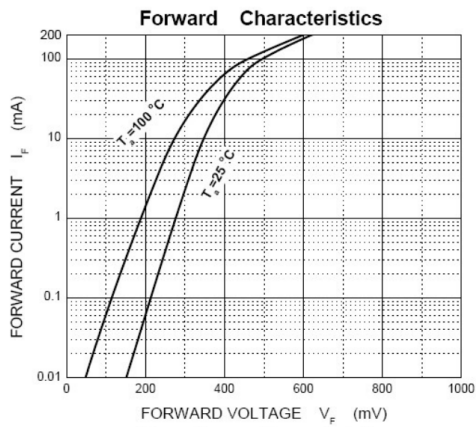
Parameters	Symbol	Limit	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	30	V
Maximum RMS voltage	V_{RMS}	21	V
Maximum DC blocking voltage	V_{DC}	30	V
Maximum average forward rectified current	I_{FM}	200	mA
Peak forward surge current 8.3ms single half sine-wave	I_{FSM}	600	mA
Typical thermal resistance	$R_{\theta JA}$	500	°C/W
Power Dissipation	PD	200	mW
Junction Temperature	T_J	125	°C
Storage temperature range	TSTG	-50~150	°C

Electrical Characteristics

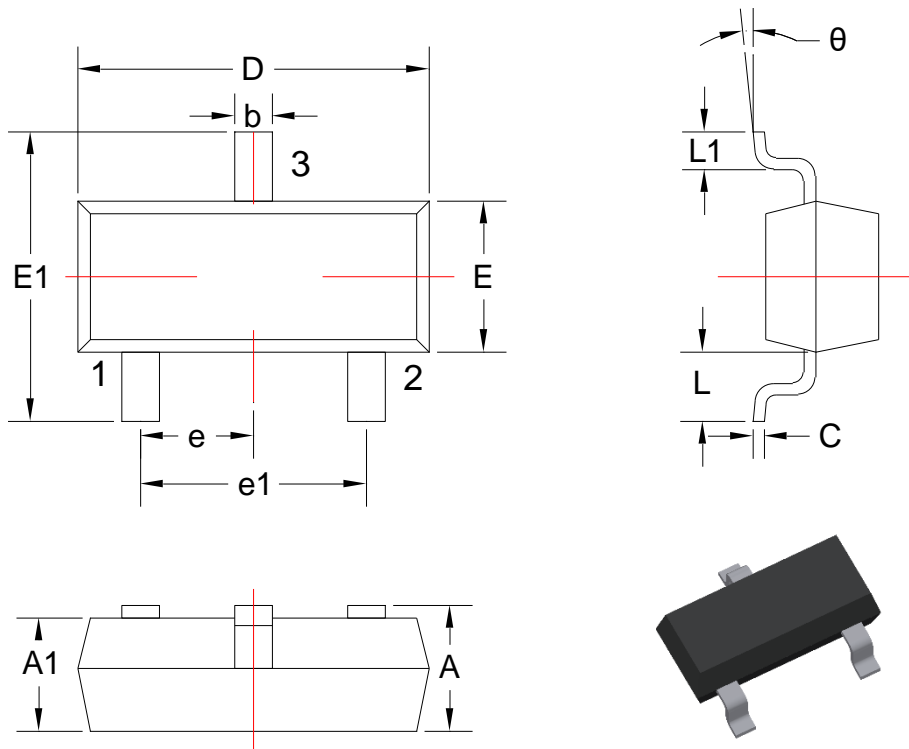
At TA = 25°C unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Maximum forward voltage	VF	IF=0.1mA			240	mV
		IF=1.0mA			320	
		IF=10mA			400	
		IF=30mA			500	
		IF=100mA			1000	
Maximum reverse breakdown voltage	VR	IR=100uA	30			V
Maximum reverse leakage current	IR	VR=25V			2.0	uA
Type junction capacitance	Cj	VR=1.0V, f=1MHz			10	pF
Reverse recovery time	TRR	IF=IR=10mA Irr=0.1XIR, RL=100Ω			5	ns

5. Typical Characteristic

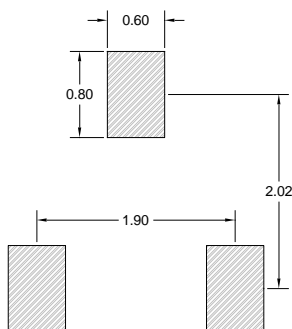


6. Dimension and Patterns (SOT-23)



Units: mm

Symbol	Dimensions		Symbol	Dimensions	
	Min.	Max.		Min.	Max.
A	0.900	1.150	E1	2.250	2.550
A1	0.900	1.050	e	0.950TYP	
b	0.300	0.500	e1	1.800	2.000
c	0.080	0.150	L	0.550REF	
D	2.800	3.00	L1	0.300	0.500
E	1.200	1.400	θ	0°	8°



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference only
4. Unit: mm

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