

# BAT54/A/C/S

ROHS

Plastic-Encapsulate Schottky Barrier Diodes

## Feature

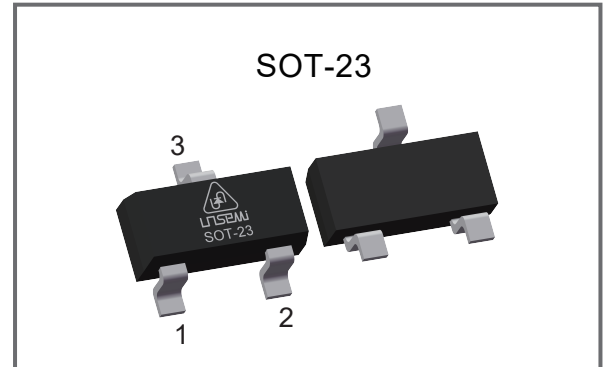
- ◆ Extremely Fast Switching Speed

## Mechanical Data

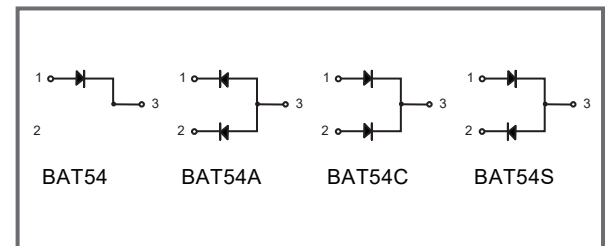
- ◆ Case: SOT-23
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Device Marking: BAT54: KL1  
BAT54A : KL2  
BAT54C : KL3  
BAT54S : KL4



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## Functional Diagram



## Mechanical Characteristics

Parameter	Symbol	Value	Units
Repetitive Peak Reverse Voltage	VRRM	30	V
Reverse Voltage	VR	30	V
Forward Continuous Current	IFM	0.2	A
Non-repetitive Peak Forward Surge Current @t=8.3ms	IFSM	0.6	A
Power Dissipation	PD	0.2	W
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	500	°C/W
Junction Temperature Range	TJ	-40~+125	°C
Storage Temperature Range	Tstg	-55~+150	°C

**Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)**

Parameter	Symbol	Test Conditions	Value		Units
			Min.	Max.	
Reverse Current	$I_R$	$V_R=25V$	-	2.0	$\mu A$
Forward Voltage	$V_F$	$I_F=0.1mA$	-	0.24	V
		$I_F=1.0mA$	-	0.32	V
		$I_F=10mA$	-	0.4	V
		$I_F=30mA$	-	0.5	V
		$I_F=100mA$	-	1.0	V
Diode Capacitance	$C_D$	$V_R=1V, f=1MHz$	-	10	pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=10mA, I_{rr}=0.1 \times I_R, R_L=100\Omega$	-	5.0	ns

**Electrical Characteristics Curves**

Fig.1 Forward Characteristics

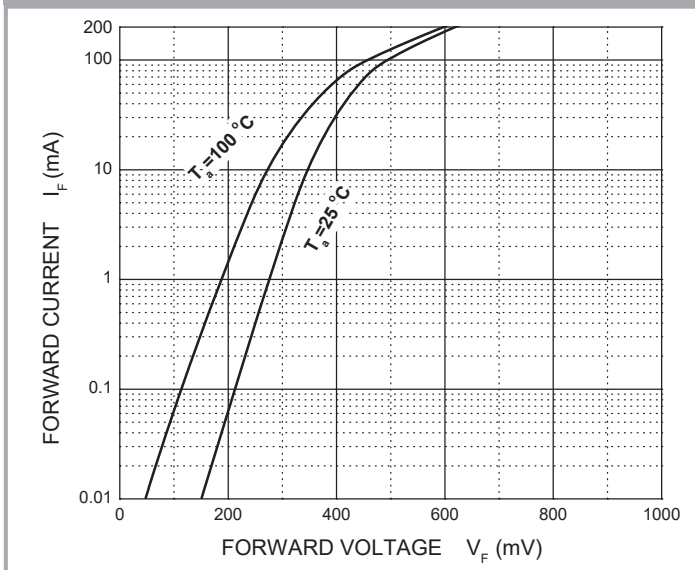


Fig. 2 Reverse Characteristics

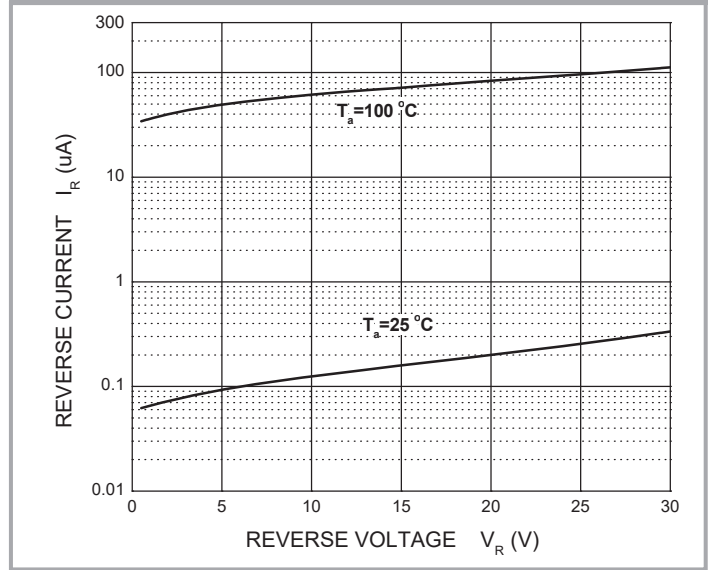


Fig.3 Capacitance Characteristics

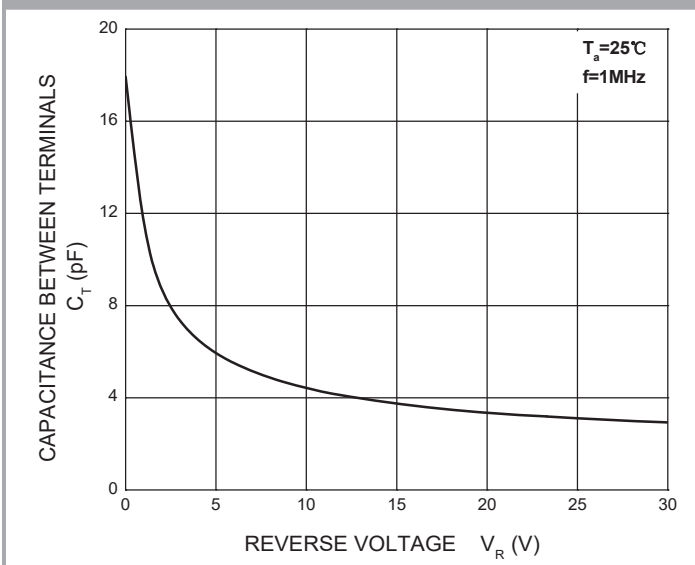
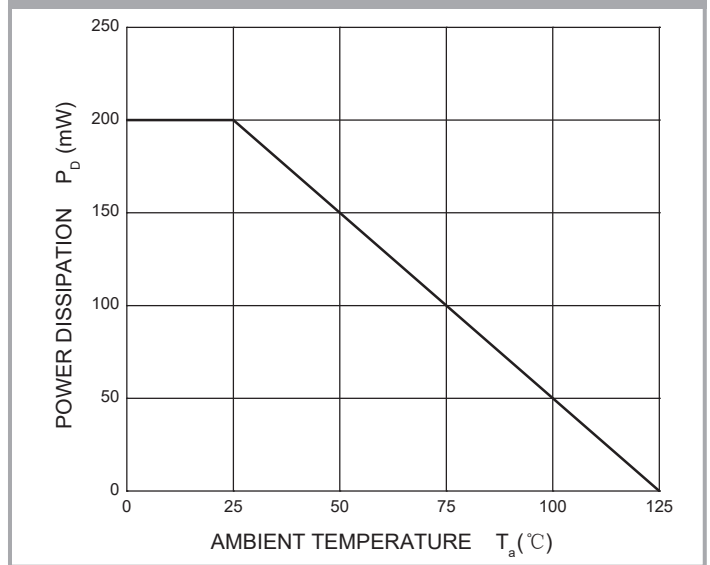
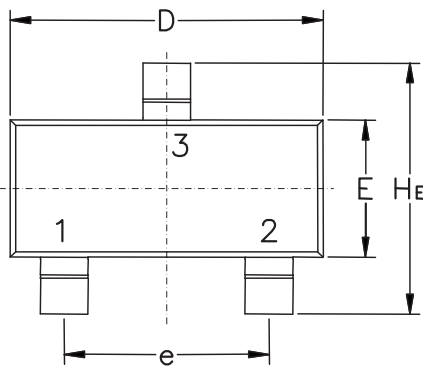


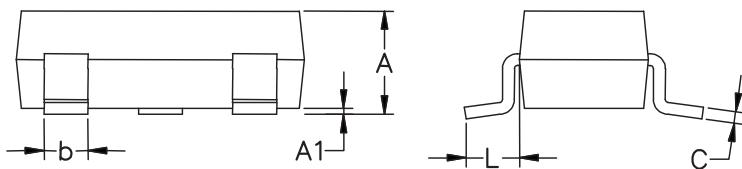
Fig. 4 Power Derating Curve



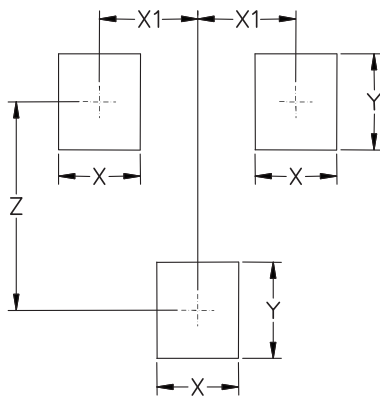
**Package Outline & Dimensions**



Symbol	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	1.05	1.11	1.25	0.042	0.044	0.050
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.30	0.44	0.50	0.012	0.018	0.020
C	0.09	0.13	0.20	0.003	0.005	0.008
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.50	1.60	1.70	0.059	0.051	0.067
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.027
HE	2.65	2.80	2.95	0.104	0.112	0.116



**Soldering Footprint**



Symbol	Millimeters	Inches
X	0.80	0.031
X1	0.96	0.037
Y	0.90	0.035
Z	2.40	0.096

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