



**CYStech Electronics Corp.**

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**Small Signal Schottky (double) diodes**

# BAT54N3/BAT54AN3

# BAT54CN3/BAT54SN3

**Description**

Planar silicon Schottky barrier diodes encapsulated in a SOT-23 small plastic SMD package. Single diodes and double diodes with different pinning are available.

**Features**

- Very small conduction losses
- Low forward voltage drop
- Small plastic SMD package

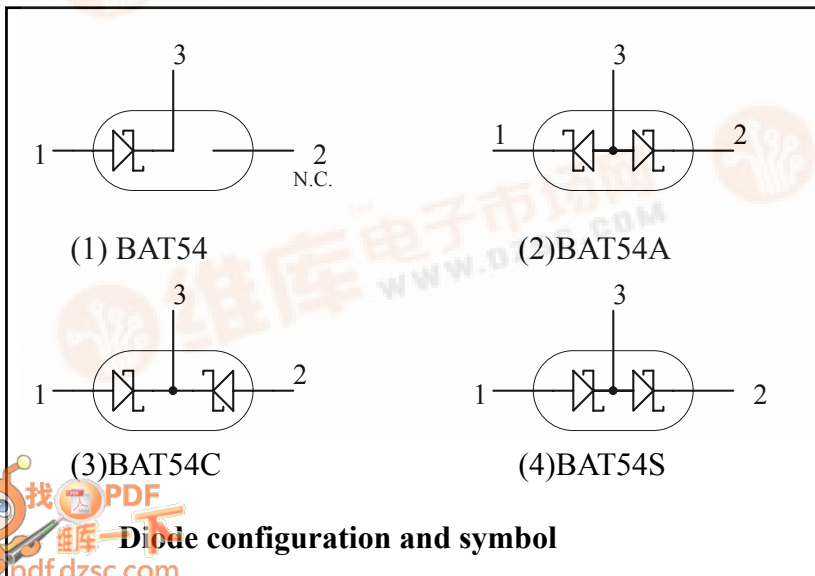
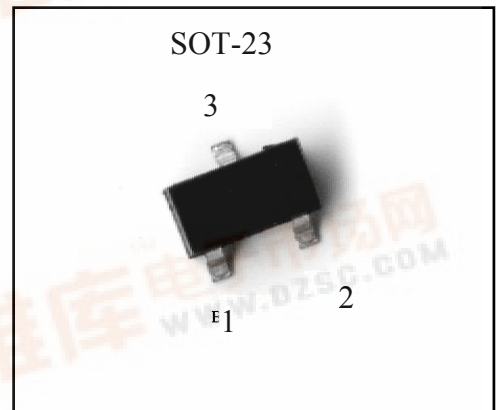
**Applications**

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Blocking diodes

**Pinning**

Pin	Description			
	BAT54	BAT54A	BAT54C	BAT54S
1	A	K1	A1	A1
2	NC	K2	A2	K2
3	K	A1,A2	K1,K2	K1,A1

**Outline**



**Marking:**

Type	Marking Code
BAT54 N3	L4
BAT54AN3	L42
BAT54CN3	L43
BAT54SN3	L44





### Absolute Maximum Ratings

- Maximum Temperatures  
Storage Temperature  $T_{stg}$  ..... -65~+150 °C  
Junction Temperature  $T_j$  ..... +125°C
- Maximum Power Dissipation  
Total Power Dissipation ( $T_a=25^\circ\text{C}$ )  $P_{tot}$  (Note) ..... 230 mW
- Maximum Voltages and Currents ( $T_a=25^\circ\text{C}$ )  
Repetitive Peak Reverse Voltage  $V_{RRM}$  ..... 30 V  
Continuous Forward Current  $I_F$  ..... 200 mA  
Repetitive Peak Forward Current( $t_p \leq 1\text{s}, \text{duty cycle} \leq 0.5$ ) ..... 300mA  
Non-repetitive Peak Forward Current ( $t_p < 10\text{ms}$ , sinusoidal)  $I_{FSM}$  ..... 600 mA

Note:for double diodes,  $P_{tot}$  is the total power dissipation of both diodes.

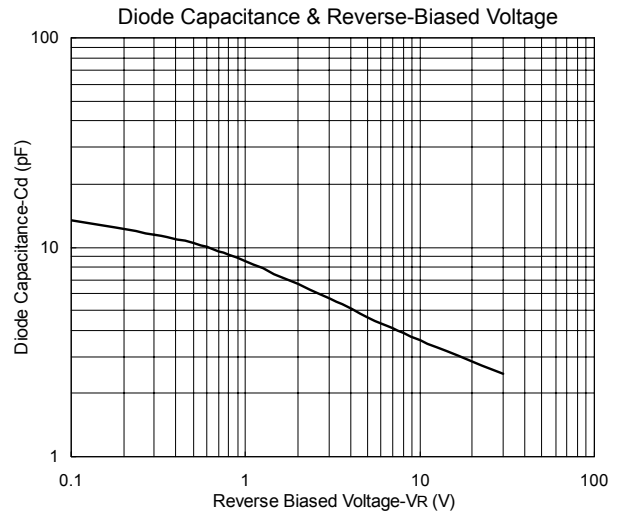
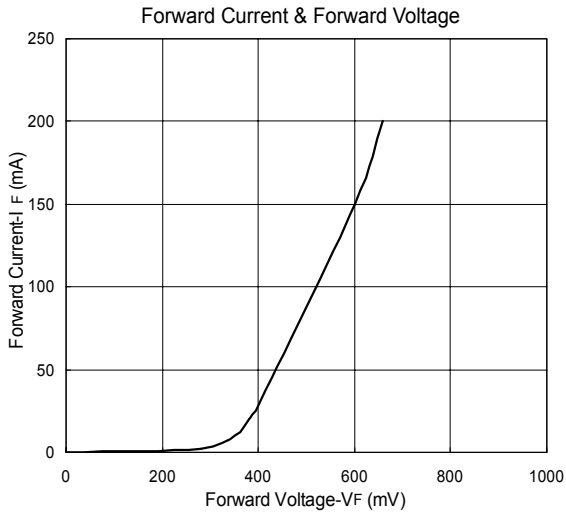
### Characteristics ( $T_a=25^\circ\text{C}$ )

Characteristic	Symbol	Condition	Min.	Max.	Unit
Reverse Breakdown Voltage	$V_{BR}$	$I_R=100\mu\text{A}$	30	-	V
Forward Voltage (Note 1)	$V_F(1)$	$I_F=0.1\text{mA}$	-	240	mV
	$V_F(2)$	$I_F=1\text{mA}$	-	320	mV
	$V_F(3)$	$I_F=10\text{mA}$	-	400	mV
	$V_F(4)$	$I_F=30\text{mA}$	-	500	mV
	$V_F(5)$	$I_F=100\text{mA}$	-	800	mV
Reverse Leakage Current (Note 2)	$I_R$	$V_R=25\text{V}, T_j=25^\circ\text{C}$	-	2	$\mu\text{A}$
Diode Capacitance	$C_D$	$V_R=1\text{V}, f=1\text{MHz}$	-	10	pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=10\text{mA}, R_L=100\Omega$ measured at $I_R=1\text{mA}$	-	5	ns

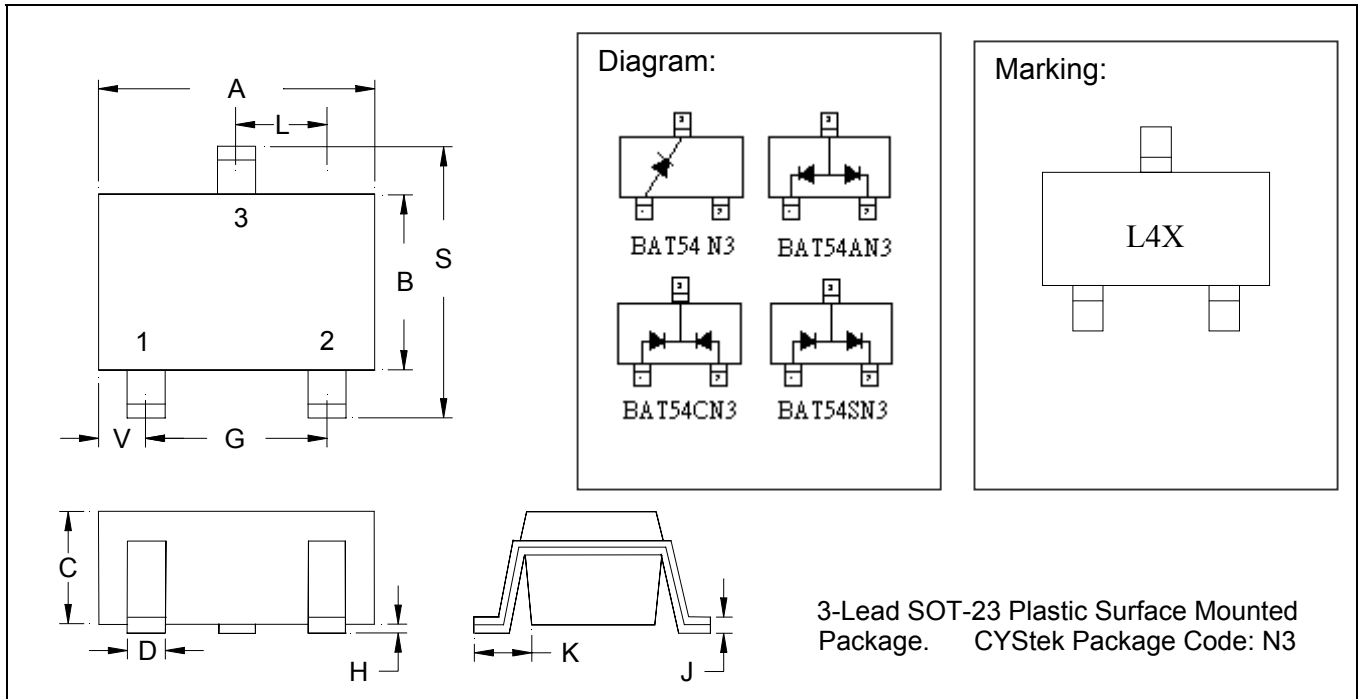
Notes: 1.pulse test,  $t_p=380\mu\text{s}, \text{duty cycle} < 2\%$ .  
2.pulse test,  $t_p=5\text{ms}, \text{duty cycle} < 2\%$ .



## Characteristic Curves



**SOT-23 Dimension**



- BAT54 N3: Single Diode (Marking Code L4)
- BAT54AN3: Common Anode. (Marking Code L42)
- BAT54CN3: Common Cathode. (Marking Code L43)
- BAT54SN3: Series Connected. (Marking Code L44)

\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	0.1204	2.80	3.04	J	0.0034	0.0070	0.85	0.177
B	0.0472	0.0630	1.20	1.60	K	0.0128	0.0266	0.32	0.67
C	0.0335	0.0512	0.89	1.30	L	0.0335	0.0453	0.85	1.15
D	0.0118	0.0197	0.30	0.50	S	0.0830	0.1083	2.10	2.75
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0005	0.0040	0.013	0.10					

**Notes:** 1. Controlling dimension: millimeters.  
 2. Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.  
 3. If there is any question with packing specification or packing method, please contact your local CYStek sales office.

**Material:**

- Lead: 42 Alloy; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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