

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

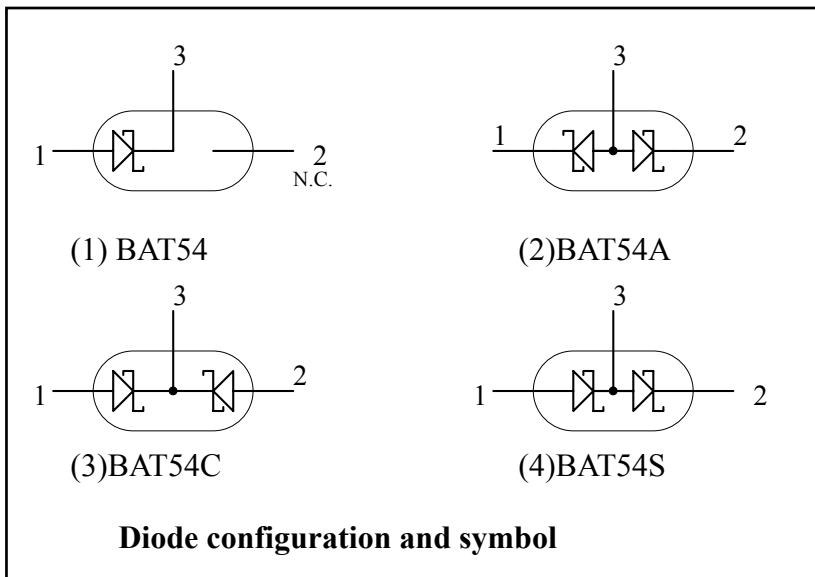
Applications

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

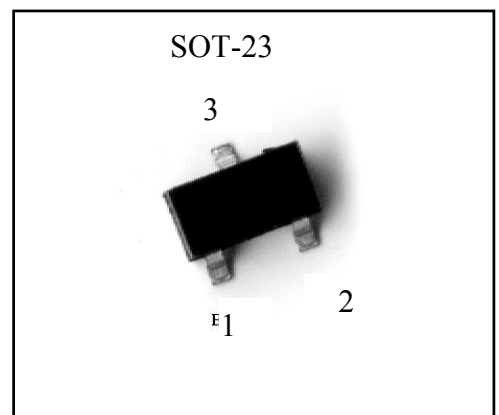
Datasheet.Live

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 Tstg -65~+150 °C
 - Junction Temperature Tj +125°C
- Maximum Power Dissipation
 - Total Power Dissipation (Ta=25°C) Ptot (Note) 230 mW
- Maximum Voltages and Currents (Ta=25°C)
 - Repetitive Peak Reverse Voltage VRRM 30 V
 - Continuous Forward Current IF 200 mA
 - Repetitive Peak Forward Current(tp≤1s,duty cycle≤0.5)..... 300mA
 - Non-repetitive Peak Forward Current (tp<10ms, sinusoidal) IFSM 600 mA

Note:for double diodes, Ptot is the total power dissipation of both diodes.

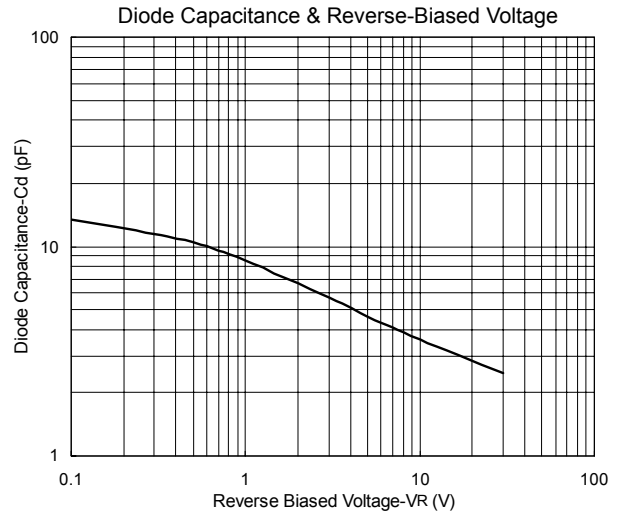
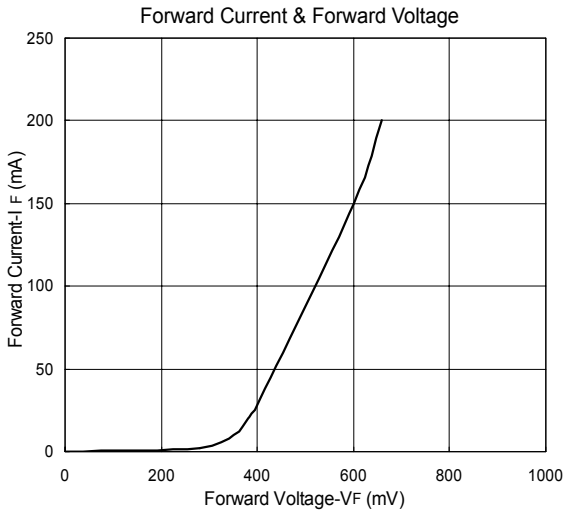
Characteristics (Ta=25°C)

| Characteristic | Symbol | Condition | Min. | Max. | Unit |
|----------------------------------|--------|--|------|------|------|
| Reverse Breakdown Voltage | VBR | IR=100μA | 30 | - | V |
| Forward Voltage (Note 1) | VF(1) | IF=0.1mA | - | 240 | mV |
| | VF(2) | IF=1mA | - | 320 | mV |
| | VF(3) | IF=10mA | - | 400 | mV |
| | VF(4) | IF=30mA | - | 500 | mV |
| | VF(5) | IF=100mA | - | 800 | mV |
| Reverse Leakage Current (Note 2) | IR | VR=25V,Tj=25°C | - | 2 | μA |
| Diode Capacitance | CD | VR=1V, f=1MHz | - | 10 | pF |
| Reverse Recovery Time | trr | IF=IR=10mA RL=100Ω measured at IR=1mA | - | 5 | ns |

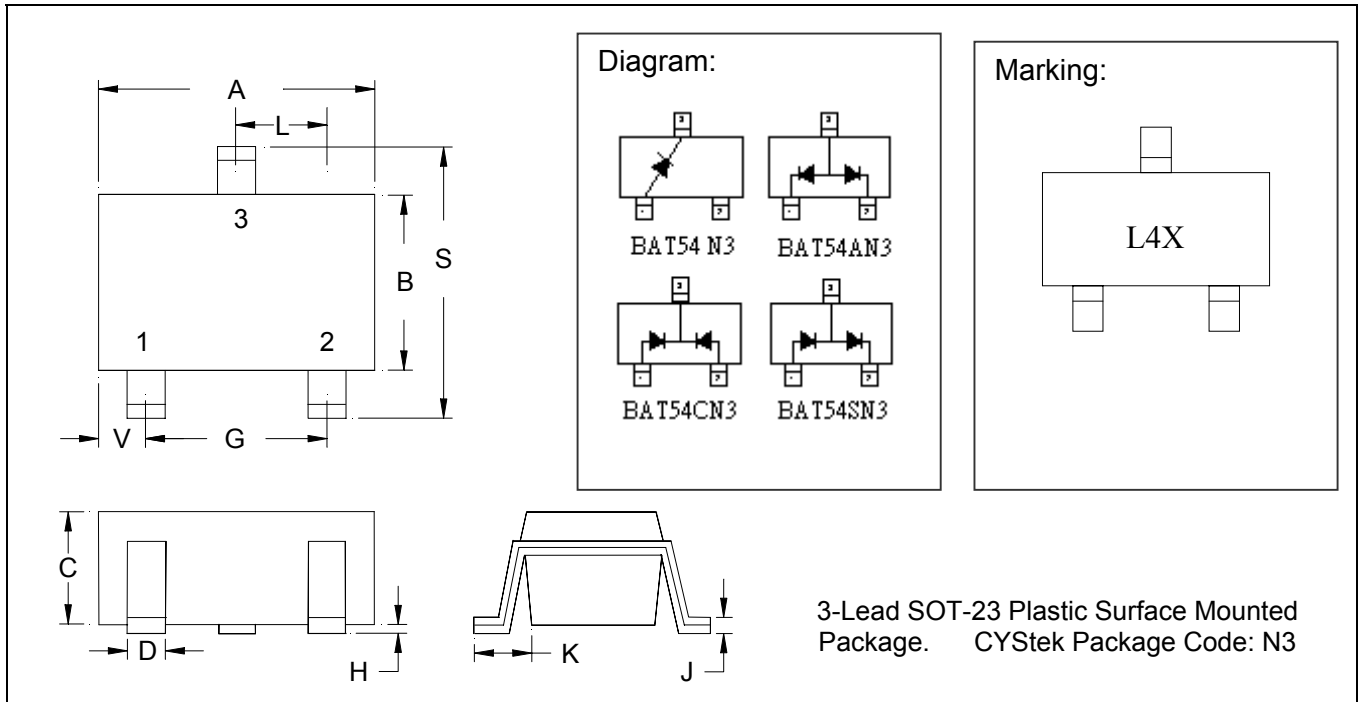
Notes: 1.pulse test, tp=380μs,duty cycle<2%.
2.pulse test, tp=5ms,duty cycle<2%.



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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