

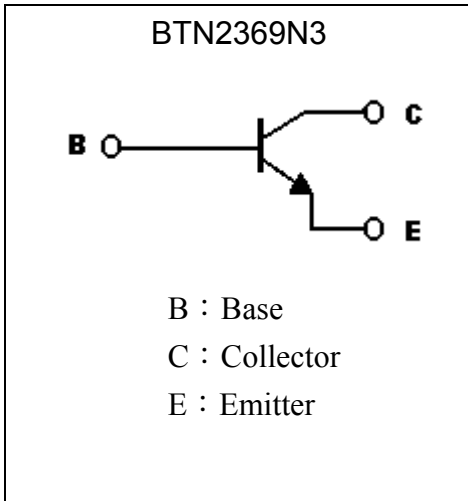
**High Frequency NPN Switching Transistor**

# BTN2369N3

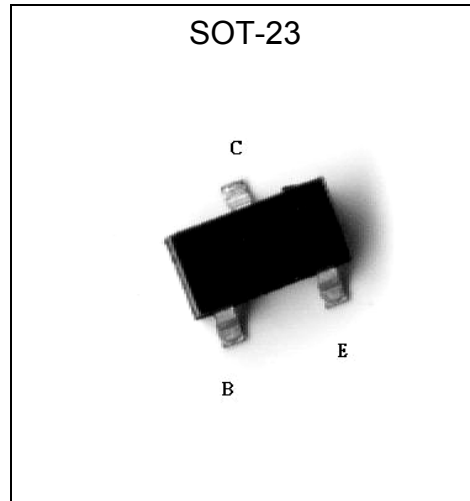
**Description**

- High transition frequency,  $f_T=500\text{MHz}(\text{min})$
- High current,  $I_{C(\text{max})}=200\text{mA}$
- Low saturation voltage,  $V_{CE(\text{SAT})}=0.3\text{V}(\text{max})$

**Symbol**



**Outline**



**Absolute Maximum Ratings** ( $T_a=25^\circ\text{C}$ )

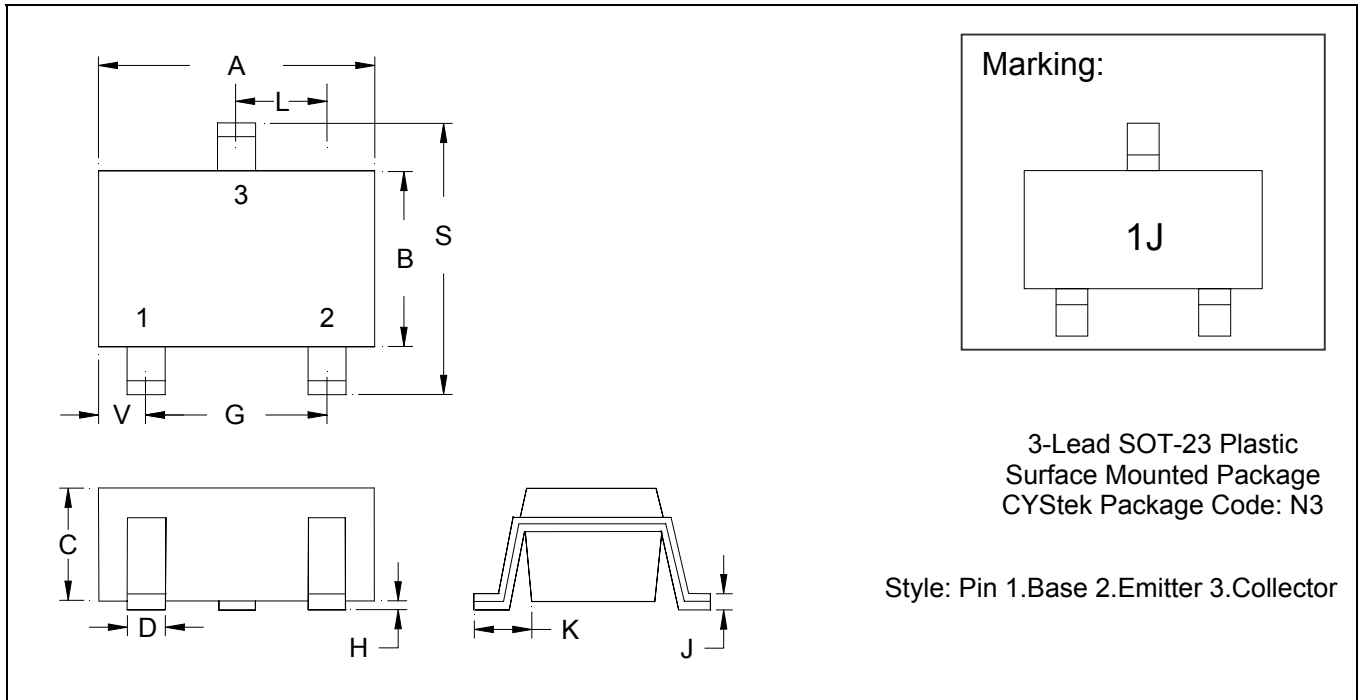
Parameter	Symbol	Limits	Unit
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	15	V
Emitter-Base Voltage	$V_{EBO}$	4.5	V
Collector Current (DC)	$I_C$	200	mA
Power Dissipation	$P_d$	225	mW
Thermal Resistance, Junction to Ambient	$R_{thJA}$	556	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-65~+150	$^\circ\text{C}$

**Characteristics (Ta=25°C)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	40	-	-	V	IC=50μA
BVCEO	15	-	-	V	IC=1mA
BVEBO	4.5	-	-	V	IE=50μA
ICBO	-	-	100	nA	V <sub>CB</sub> =40V
IEBO	-	-	100	nA	V <sub>EB</sub> =4.5V
*V <sub>CE(sat)</sub> 1	-	-	250	mV	IC=10mA, IB=1mA
*V <sub>CE(sat)</sub> 2	-	-	300	mV	IC=20mA, IB=1mA
*V <sub>BE(sat)</sub> 1	700	-	850	mV	IC=10mA, IB=1mA
*V <sub>BE(sat)</sub> 2	-	-	1	V	IC=20mA, IB=1mA
*h <sub>FE1</sub>	40	-	120	-	V <sub>CE</sub> =1V, IC=10mA
*h <sub>FE2</sub>	20	-	-	-	V <sub>CE</sub> =2V, IC=100mA
f <sub>T</sub>	500	-	-	MHz	V <sub>CE</sub> =10V, IC=10mA, f=100MHz
Cob	-	-	4	pF	V <sub>CB</sub> =5V, f=1MHz

\*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

**SOT-23 Dimension**



\*: 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	0.085	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

**Important Notice:**

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of CYStek.
- CYStek reserves the right to make changes to its products without notice.
- CYStek **semiconductor products are not warranted to be suitable for use in Life-Support Applications, or systems.**
- CYStek assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.