

2N5769
PN2369A

NPN SILICON TRANSISTOR



TO-92 CASE



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N5769 and PN2369A are epitaxial planar NPN Silicon Transistors designed for ultra high speed saturated switching applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Collector-Base Voltage	
Collector-Emitter Voltage	
Collector-Emitter Voltage	
Emitter-Base Voltage	
Continuous Collector Current	
Peak Collector Current	
Power Dissipation	
Operating and Storage Junction Temperature	

SYMBOL		UNITS
V_{CBO}	40	V
V_{CES}	40	V
V_{CEO}	15	V
V_{EBO}	4.5	V
I_C	200	mA
I_{CM}	500	mA
P_D	350	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=20V$		400	nA
I_{CBO}	$V_{CB}=20V, T_A=125^\circ\text{C}$		30	μA
I_{CES}	$V_{CE}=20V$ (2N5769)		400	nA
I_{EBO}	$V_{EB}=4.5V$ (2N5769)		1.0	μA
BV_{CBO}	$I_C=10\mu\text{A}$	40		V
BV_{CES}	$I_C=10\mu\text{A}$	40		V
BV_{CEO}	$I_C=10\text{mA}$	15		V
BV_{EBO}	$I_E=10\mu\text{A}$	4.5		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		200	mV
$V_{CE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		250	mV
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		500	mV
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	700	850	mV
$V_{BE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		1.15	V
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		1.6	V
h_{FE}	$V_{CE}=0.35V, I_C=10\text{mA}$ (2N5769)	40	120	
h_{FE}	$V_{CE}=1.0V, I_C=10\text{mA}$ (PN2369A)	40	120	
h_{FE}	$V_{CE}=0.4V, I_C=30\text{mA}$	30		
h_{FE}	$V_{CE}=1.0V, I_C=100\text{mA}$	20		

R1 (10-March 2011)

2N5769
PN2369A

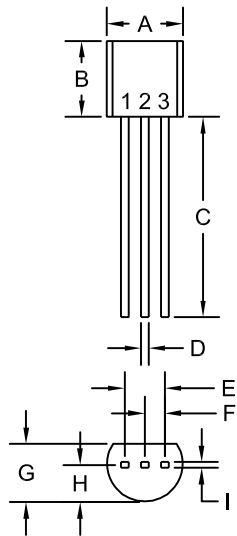
NPN SILICON TRANSISTOR



ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
f_T	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$	500		MHz
C_{ob}	$V_{CB}=5.0\text{V}$, $I_E=0$, $f=140\text{kHz}$		4.0	pF
C_{ib}	$V_{EB}=5.0\text{V}$, $I_C=0$, $f=1.0\text{MHz}$ (PN2369A)		5.0	pF
t_{on}	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=3.0\text{mA}$, $I_{B2}=1.5\text{mA}$		12	ns
t_{off}	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=3.0\text{mA}$, $I_{B2}=1.5\text{mA}$		18	ns
t_s	$V_{CC}=10\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=10\text{mA}$		13	ns

TO-92 CASE - MECHANICAL OUTLINE



R1

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING: FULL PART NUMBER

R1 (10-March 2011)



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Central's operations team provides the highest level of support to insure product is delivered on-time.

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- Custom product and package development

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1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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