

PN4209

PNP SILICON TRANSISTOR



TO-92 CASE



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR PN4209 is a PNP Silicon Transistor designed for high speed switching applications.

**MARKING: FULL PART NUMBER**

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

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

SYMBOL		UNITS
$V_{CBO}$	15	V
$V_{CEO}$	15	V
$V_{EBO}$	4.5	V
$I_C$	200	mA
$P_D$	625	mW
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
$\theta_{JA}$	200	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{CES}$	$V_{CE}=8.0\text{V}$		10	nA
$I_{CES}$	$V_{CE}=8.0\text{V}, T_A=125^\circ\text{C}$		5.0	$\mu\text{A}$
$BV_{CBO}$	$I_C=100\mu\text{A}$	15		V
$BV_{CES}$	$I_C=100\mu\text{A}$	15		V
$BV_{CEO}$	$I_C=3.0\text{mA}$	15		V
$BV_{EBO}$	$I_E=100\mu\text{A}$	4.5		V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=100\mu\text{A}$		0.15	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.18	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.60	V
$V_{BE(SAT)}$	$I_C=1.0\text{mA}, I_B=100\mu\text{A}$		0.80	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.69	0.86	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.5	V
$h_{FE}$	$V_{CE}=0.5\text{V}, I_C=1.0\text{mA}$	35		
$h_{FE}$	$V_{CE}=0.3\text{V}, I_C=10\text{mA}$	50	120	
$h_{FE}$	$V_{CE}=0.3\text{V}, I_C=10\text{mA}, T_A=-55^\circ\text{C}$	20		
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=50\text{mA}$	40		
$f_T$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	850		MHz
$C_{ob}$	$V_{CB}=5.0\text{V}, I_E=0$		7.0	pF
$C_{ib}$	$V_{BE}=0.5\text{V}, I_C=0$		7.0	pF

R0 (1-December 2011)

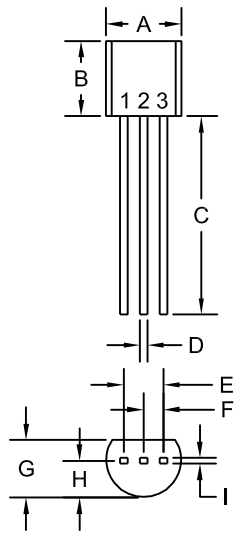
**PN4209**  
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$t_{on}$	$V_{CC}=1.5\text{V}$ , $I_C=10\text{mA}$ , $I_{B1}=1.0\text{mA}$		20	ns
$t_{off}$	$V_{CC}=1.5\text{V}$ , $I_C=10\text{mA}$ , $I_{B1}=I_{B2}=1.0\text{mA}$		20	ns

**TO-92 CASE - MECHANICAL OUTLINE**



R1

SYMBOL	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**

R0 (1-December 2011)