

PN5138

PNP SILICON TRANSISTOR



TO-92 CASE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR PN5138 is a small signal PNP silicon transistor designed for general purpose amplifier 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
$V_{CB0}$	30	V
$V_{CEO}$	30	V
$V_{EBO}$	5.0	V
$I_C$	500	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
$I_{CBO}$	$V_{CB}=20\text{V}$		50	nA
$I_{CBO}$	$V_{CB}=20\text{V}, T_A=65^\circ\text{C}$		3.0	$\mu\text{A}$
$BV_{CBO}$	$I_C=100\mu\text{A}$	30		V
$BV_{CEO}$	$I_C=10\text{mA}$	30		V
$BV_{EBO}$	$I_E=100\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		0.3	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		1.0	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$		1.0	V
$h_{FE}$	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	50	800	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	50		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	50		
$C_{ob}$	$V_{CB}=5.0\text{V}, f=1.0\text{MHz}$		7.0	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, f=1.0\text{MHz}$		30	pF
$h_{fe}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	40	1000	
$h_{fe}$	$V_{CE}=5.0\text{V}, I_C=0.5\text{mA}, f=20\text{MHz}$	1.5		

R0 (27-June 2011)

PN5138  
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**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 (27-June 2011)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

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

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

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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### CONTACT US

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