

2N4123 2N4124 NPN  
2N4125 2N4126 PNP

**COMPLEMENTARY  
SILICON TRANSISTORS**



**TO-92 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N4123 series devices are complementary silicon small signal transistors manufactured by the epitaxial planar process designed for general purpose amplifier and switching applications.

**MARKING: FULL PART NUMBER**

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

	SYMBOL	2N4123	2N4124	2N4125	2N4126	UNITS
Collector-Base Voltage	$V_{CB0}$	40	30	30	25	V
Collector-Emitter Voltage	$V_{CEO}$	30	25	30	25	V
Emitter-Base Voltage	$V_{EBO}$	5.0	5.0	4.0	4.0	V
Continuous Collector Current	$I_C$		200			mA
Power Dissipation	$P_D$		625			mW
Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_D$		1.5			W
Operating and Storage Junction Temperature	$T_J, T_{stg}$		-65 to +150			$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$		200			$^\circ\text{C/W}$
Thermal Resistance	$\theta_{JC}$		83.3			$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	2N4123		2N4124		2N4125		2N4126		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
$I_{CBO}$	$V_{CB}=20\text{V}$	-	50	-	50	-	50	-	50	nA
$I_{EBO}$	$V_{EB}=3.0\text{V}$	-	50	-	50	-	50	-	50	nA
$BV_{CBO}$	$I_C=10\mu\text{A}$	40	-	30	-	30	-	25	-	V
$BV_{CEO}$	$I_C=1.0\text{mA}$	30	-	25	-	30	-	25	-	V
$BV_{EBO}$	$I_E=10\mu\text{A}$	5.0	-	5.0	-	4.0	-	4.0	-	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	0.3	-	0.3	-	0.4	-	0.4	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	0.95	-	0.95	-	0.95	-	0.95	V
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=2.0\text{mA}$	50	150	120	360	50	150	120	360	
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=50\text{mA}$	25	-	60	-	25	-	60	-	
$h_{fe}$	$V_{CE}=10\text{V}, I_C=2.0\text{mA}, f=1.0\text{kHz}$	50	200	120	480	50	200	120	480	
$f_T$	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	250	-	300	-	200	-	250	-	MHz
$C_{ob}$	$V_{CB}=5.0\text{V}, I_E=0, f=100\text{kHz}$	-	4.0	-	4.0	-	4.5	-	4.5	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0, f=100\text{kHz}$	-	8.0	-	8.0	-	10	-	10	pF
NF	$V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, R_S=1.0\text{k}\Omega, f=10\text{Hz to } 15.7\text{kHz}$	-	6.0	-	5.0	-	5.0	-	4.0	dB

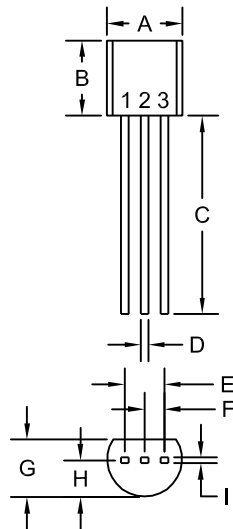
R1 (12-January 2016)

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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

R1 (12-January 2016)

## 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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