

2N4123 2N4124 NPN
2N4125 2N4126 PNP

**COMPLEMENTARY
SILICON TRANSISTORS**



TO-92 CASE



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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	θ_{JA}		200			$^\circ\text{C/W}$
Thermal Resistance	θ_{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)

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CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centalsemi.com

Worldwide Field Representatives:
www.centalsemi.com/wwreps

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