

**2N4424**  
**SILICON**  
**NPN TRANSISTOR**



**TO-92 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N4424 is a silicon NPN epitaxial planar 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
$V_{CB0}$	60	V
$V_{CEO}$	40	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	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=40\text{V}$			30	nA
$I_{CBO}$	$V_{CB}=40\text{V}, T_A=100^\circ\text{C}$			10	$\mu\text{A}$
$I_{CES}$	$V_{CE}=40\text{V}$			30	nA
$I_{EBO}$	$V_{EB}=5.0\text{V}$			100	nA
$BV_{CBO}$	$I_C=10\mu\text{A}$	60			V
$BV_{CEO}$	$I_C=10\text{mA}$	40			V
$BV_{EBO}$	$I_E=0.1\mu\text{A}$	5.0			V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=3.0\text{mA}$			0.30	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=3.0\text{mA}$			0.85	V
$h_{FE}$	$V_{CE}=4.5\text{V}, I_C=2.0\text{mA}$	180		540	
$h_{fe}$	$V_{CE}=4.5\text{V}, I_C=2.0\text{mA}, f=1.0\text{kHz}$	180			
$h_{fe}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$		180		
$h_{ie}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$		5100		$\Omega$
$h_{oe}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$		14		$\mu\text{S}$
$h_{re}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$		0.27		$\times 10^{-3}$

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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) Collector
- 3) Base

MARKING:

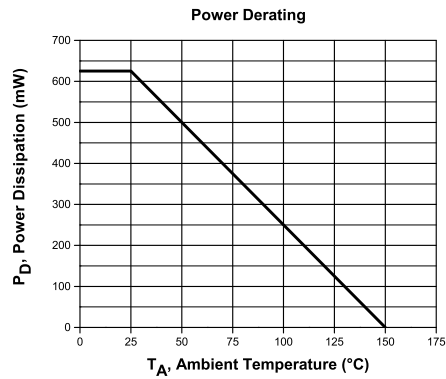
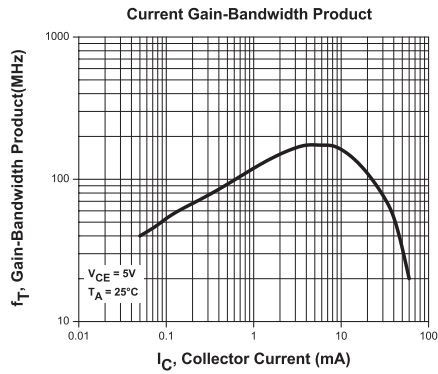
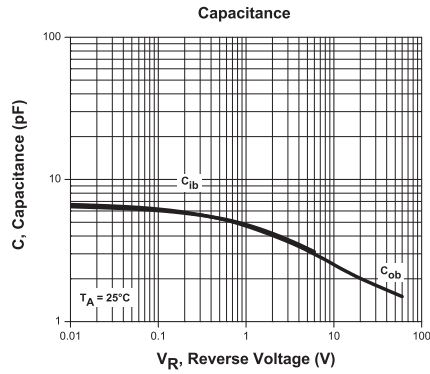
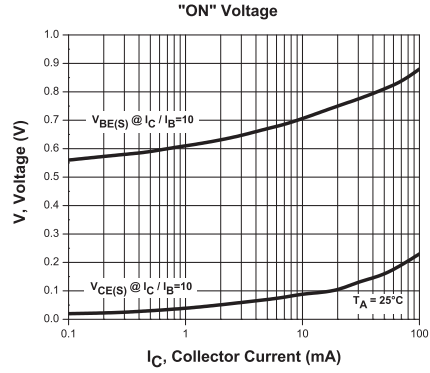
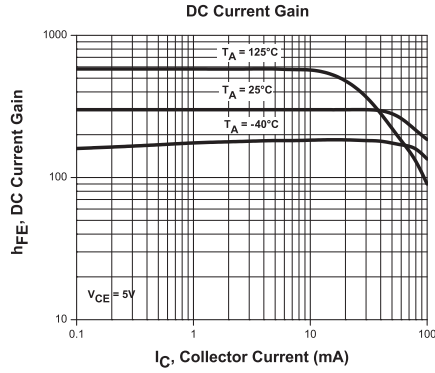
FULL PART NUMBER

R1 (26-July 2013)

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**TYPICAL ELECTRICAL CHARACTERISTICS**



R1 (26-July 2013)