

2N5400
2N5401

SILICON
PNP TRANSISTORS



TO-92 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N5400 and 2N5401 are silicon PNP transistors designed for high voltage amplifier applications.

MARKING: FULL PART NUMBER

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

	SYMBOL	2N5400	2N5401	UNITS
Collector-Base Voltage	V_{CBO}	130	160	V
Collector-Emitter Voltage	V_{CEO}	120	150	V
Emitter-Base Voltage	V_{EBO}		5.0	V
Continuous Collector Current	I_C		600	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: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N5400		2N5401		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=100\text{V}$	-	100	-	-	nA
I_{CBO}	$V_{CB}=100\text{V}, T_A=100^\circ\text{C}$	-	100	-	-	μA
I_{CBO}	$V_{CB}=120\text{V}$	-	-	-	50	nA
I_{CBO}	$V_{CB}=120\text{V}, T_A=100^\circ\text{C}$	-	-	-	50	μA
I_{EBO}	$V_{EB}=3.0\text{V}$	-	50	-	50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	130	-	160	-	V
BV_{CEO}	$I_C=1.0\text{mA}$	120	-	150	-	V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0	-	5.0	-	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.2	-	0.2	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	0.5	-	0.5	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	1.0	-	1.0	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	1.0	-	1.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	30	-	50	-	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	40	240	60	240	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$	40	-	50	-	
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	400	100	300	MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$	-	6.0	-	6.0	pF
h_{fe}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	30	200	40	200	
NF	$V_{CE}=5.0\text{V}, I_C=250\mu\text{A}, R_S=1.0\text{k}\Omega, f=10\text{Hz to } 15.7\text{kHz}$	-	8.0	-	8.0	dB

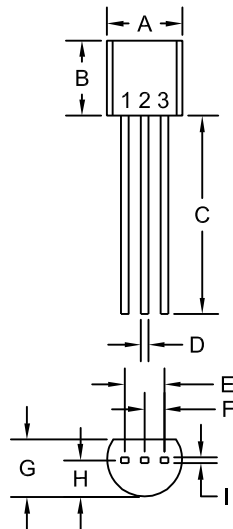
R1 (5-December 2014)

2N5400
2N5401

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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

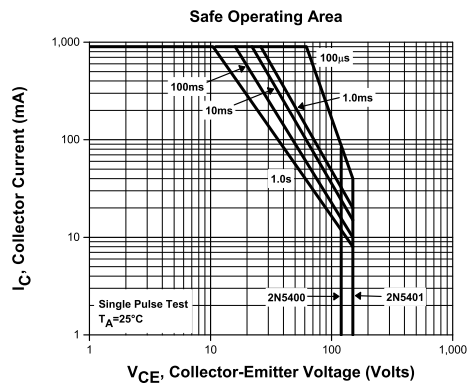
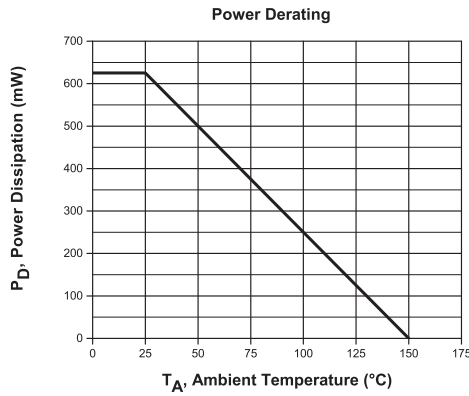
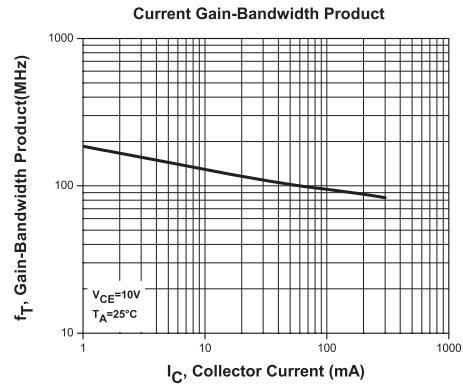
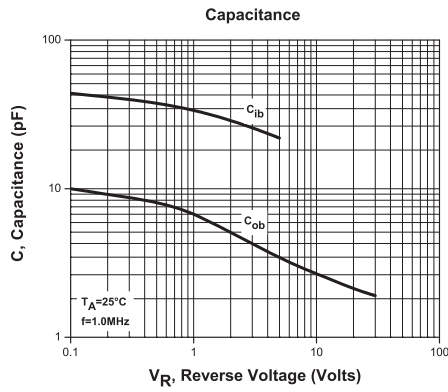
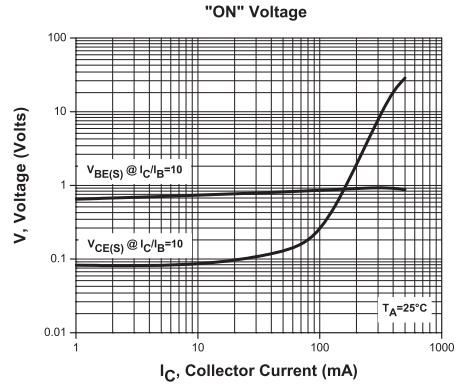
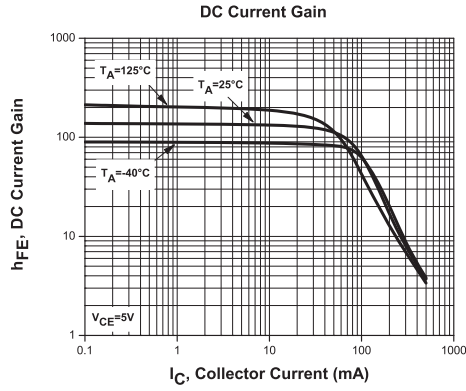
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TYPICAL ELECTRICAL CHARACTERISTICS



R1 (5-December 2014)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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

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).

CONTACT US

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