

2N6430 2N6431 NPN  
2N6432 2N6433 PNP

**COMPLEMENTARY  
SILICON TRANSISTORS**



**TO-18 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N6430 series devices are complementary small signal silicon transistors manufactured by the epitaxial planar process, designed for high voltage amplifier applications.

**MARKING: FULL PART NUMBER**

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

SYMBOL	2N6430	2N6431	UNITS
	2N6432	2N6433	
Collector-Base Voltage	$V_{CBO}$ 200	300	V
Collector-Emitter Voltage	$V_{CEO}$ 200	300	V
Emitter-Base Voltage (NPN)	$V_{EBO}$	6.0	V
Emitter-Base Voltage (PNP)	$V_{EBO}$	5.0	V
Continuous Collector Current	$I_C$	500	mA
Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_D$	1.8	W
Power Dissipation	$P_D$	500	mW
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +200	$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$	0.35	$^\circ\text{C}/\text{mW}$
Thermal Resistance	$\theta_{JC}$	97.2	$^\circ\text{C}/\text{W}$

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

SYMBOL	TEST CONDITIONS	2N6430		2N6432		UNITS
		2N6431	2N6433	MIN	MAX	
$I_{CBO}$	$V_{CB}=160\text{V}$ (2N6430, 2N6432)	-	100	-	250	nA
$I_{CBO}$	$V_{CB}=200\text{V}$ (2N6431, 2N6433)	-	100	-	250	nA
$I_{EBO}$	$V_{EB}=4.0\text{V}$	-	100	-	-	nA
$I_{EBO}$	$V_{EB}=3.0\text{V}$	-	-	-	100	nA
$BV_{CBO}$	$I_C=100\mu\text{A}$ (2N6430, 2N6432)	200	-	200	-	V
$BV_{CBO}$	$I_C=100\mu\text{A}$ (2N6431, 2N6433)	300	-	300	-	V
$BV_{CEO}$	$I_C=1.0\text{mA}$ (2N6430, 2N6432)	200	-	200	-	V
$BV_{CEO}$	$I_C=1.0\text{mA}$ (2N6431, 2N6433)	300	-	300	-	V
$BV_{EBO}$	$I_E=100\mu\text{A}$	6.0	-	5.0	-	V
$V_{CE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$	-	0.5	-	0.5	V
$V_{BE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$	-	0.9	-	0.9	V
$h_{FE}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	25	-	25	-	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	40	-	40	-	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=30\text{mA}$	50	200	30	150	

R2 (3-April 2018)

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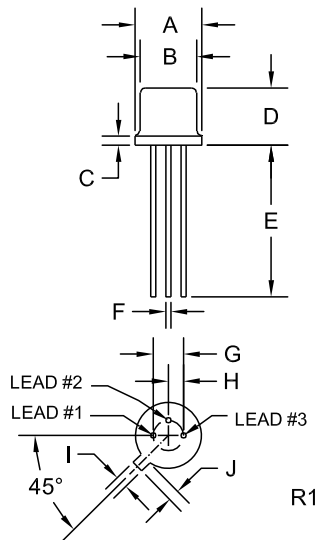
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ELECTRICAL CHARACTERISTICS - Continued: ( $T_A=25^\circ\text{C}$ )

SYMBOL	TEST CONDITIONS	2N6430 2N6431		2N6432 2N6433		UNITS
		MIN	MAX	MIN	MAX	
$f_T$	$V_{CE}=20\text{V}$ , $I_C=10\text{mA}$ , $f=100\text{MHz}$	50	200	-	-	MHz
$f_T$	$V_{CE}=20\text{V}$ , $I_C=10\text{mA}$ , $f=20\text{MHz}$	-	-	50	-	MHz
$C_{ob}$	$V_{CB}=20\text{V}$ , $I_E=0$ , $f=1.0\text{MHz}$	-	4.0	-	6.0	pF

TO-18 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.209	0.230	5.31	5.84
B (DIA)	0.178	0.195	4.52	4.95
C	-	0.030	-	0.76
D	0.170	0.210	4.32	5.33
E	0.500	-	12.70	-
F (DIA)	0.016	0.019	0.41	0.48
G (DIA)	0.100		2.54	
H	0.050		1.27	
I	0.036	0.046	0.91	1.17
J	0.028	0.048	0.71	1.22

TO-18 (REV: R1)

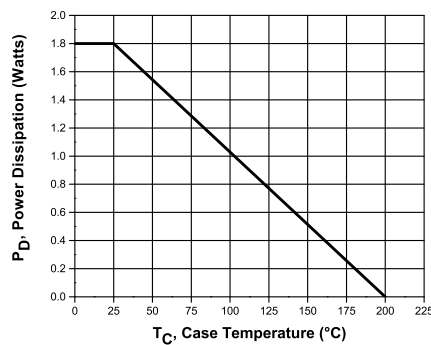
LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING:

FULL PART NUMBER

Power Derating



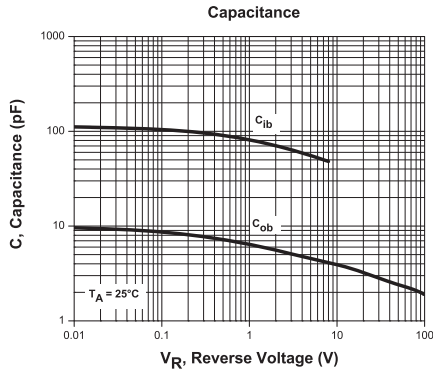
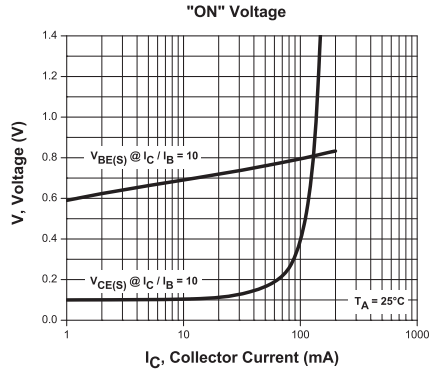
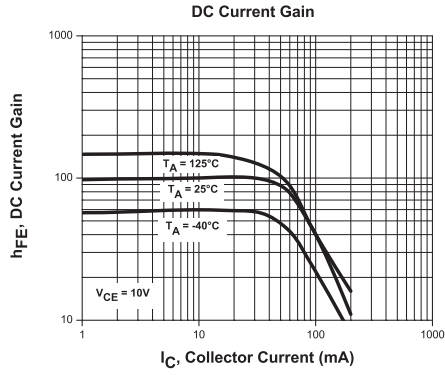
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NPN TYPICAL ELECTRICAL CHARACTERISTICS



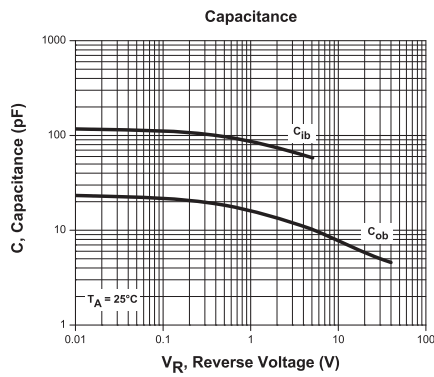
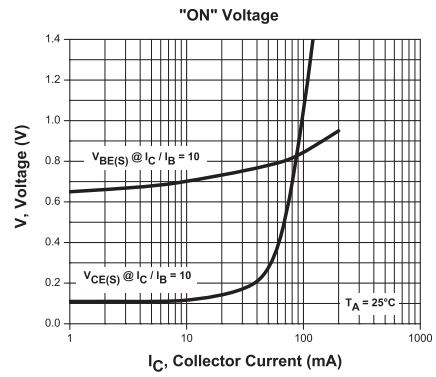
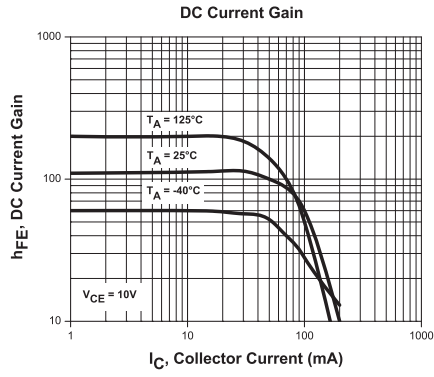
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PNP TYPICAL ELECTRICAL CHARACTERISTICS



R2 (3-April 2018)

## 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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