

2N2895
2N2896
2N2897

**SILICON
NPN TRANSISTORS**



TO-18 CASE



www.centralemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N2895, 2N2896, and 2N2897 are silicon NPN epitaxial planar transistors designed for small signal, general purpose applications.

MARKING: FULL PART NUMBER

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

	SYMBOL	2N2895	2N2896	2N2897	UNITS
Collector-Base Voltage	V_{CBO}	120	140	60	V
Collector-Emitter Voltage	V_{CER}	80	140	60	V
Collector-Emitter Voltage	V_{CEO}	65	90	45	V
Emitter-Base Voltage	V_{EBO}		7.0		V
Continuous Collector Current	I_{C}		1.0		A
Power Dissipation	P_{D}		500		mW
Power Dissipation ($T_{\text{C}}=25^{\circ}\text{C}$)	P_{D}		1.8		W
Operating and Storage Junction Temperature	$T_{\text{J}}, T_{\text{stg}}$		-65 to +200		$^{\circ}\text{C}$

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

SYMBOL	TEST CONDITIONS	2N2895		2N2896		2N2897		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CBO}	$V_{\text{CB}}=60\text{V}$	-	2.0	-	10	-	50	nA
I_{CBO}	$V_{\text{CB}}=60\text{V}, T_A=150^{\circ}\text{C}$	-	2.0	-	-	-	50	μA
I_{CBO}	$V_{\text{CB}}=90\text{V}$	-	-	-	10	-	-	nA
I_{CBO}	$V_{\text{CB}}=90\text{V}, T_A=150^{\circ}\text{C}$	-	-	-	10	-	-	μA
I_{EBO}	$V_{\text{EB}}=5.0\text{V}$	-	5.0	-	10	-	50	nA
BV_{CBO}	$I_{\text{C}}=100\mu\text{A}$	120	-	140	-	60	-	V
BV_{CER}	$I_{\text{C}}=100\text{mA}, R_{\text{BE}}=10\Omega$	80	-	140	-	60	-	V
BV_{CEO}	$I_{\text{C}}=100\text{mA}$	65	-	90	-	45	-	V
BV_{EBO}	$I_{\text{E}}=100\mu\text{A}$	7.0	-	7.0	-	7.0	-	V
$V_{\text{CE}}(\text{SAT})$	$I_{\text{C}}=150\text{mA}, I_{\text{B}}=15\text{mA}$	-	0.6	-	0.6	-	1.0	V
$V_{\text{BE}}(\text{SAT})$	$I_{\text{C}}=150\text{mA}, I_{\text{B}}=15\text{mA}$	-	1.2	-	1.2	-	1.3	V
h_{FE}	$V_{\text{CE}}=10\text{V}, I_{\text{C}}=10\mu\text{A}$	10	-	-	-	-	-	
h_{FE}	$V_{\text{CE}}=10\text{V}, I_{\text{C}}=100\mu\text{A}$	20	-	-	-	-	-	
h_{FE}	$V_{\text{CE}}=10\text{V}, I_{\text{C}}=1.0\text{mA}$	-	-	35	-	35	-	
h_{FE}	$V_{\text{CE}}=10\text{V}, I_{\text{C}}=10\text{mA}$	35	-	-	-	-	-	
h_{FE}	$V_{\text{CE}}=10\text{V}, I_{\text{C}}=10\text{mA}, T_A=-55^{\circ}\text{C}$	20	-	20	-	-	-	
h_{FE}	$V_{\text{CE}}=10\text{V}, I_{\text{C}}=150\text{mA}$	40	120	60	200	50	200	
h_{FE}	$V_{\text{CE}}=10\text{V}, I_{\text{C}}=500\text{mA}$	25	-	-	-	-	-	

R0 (6-August 2013)

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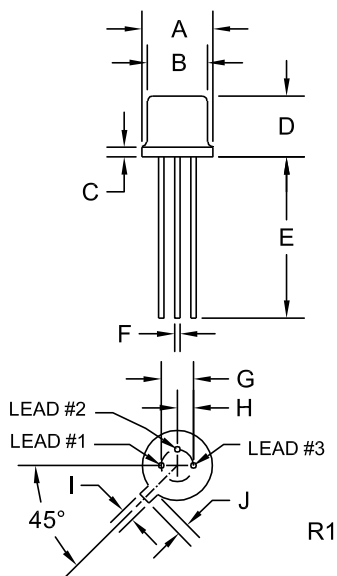
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ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N2895		2N2896		2N2897		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
f_T	$V_{CE}=10\text{V}$, $I_C=50\text{mA}$, $f=20\text{MHz}$	120	-	120	-	100	-	MHz
C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=100\text{kHz}$	-	15	-	15	-	15	pF
C_{ib}	$V_{BE}=0.5\text{V}$, $I_C=0$, $f=100\text{kHz}$	-	80	-	80	-	80	pF
h_{fe}	$V_{CE}=5.0\text{V}$, $I_C=5.0\text{mA}$, $f=1.0\text{kHz}$	50	200	50	275	50	275	
NF	$V_{CE}=10\text{V}$, $I_C=0.3\text{mA}$, $R_S=500\Omega$, $f=1.0\text{kHz}$, $BW=15\text{kHz}$	-	8.0	-	-	-	-	dB

TO-18 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	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

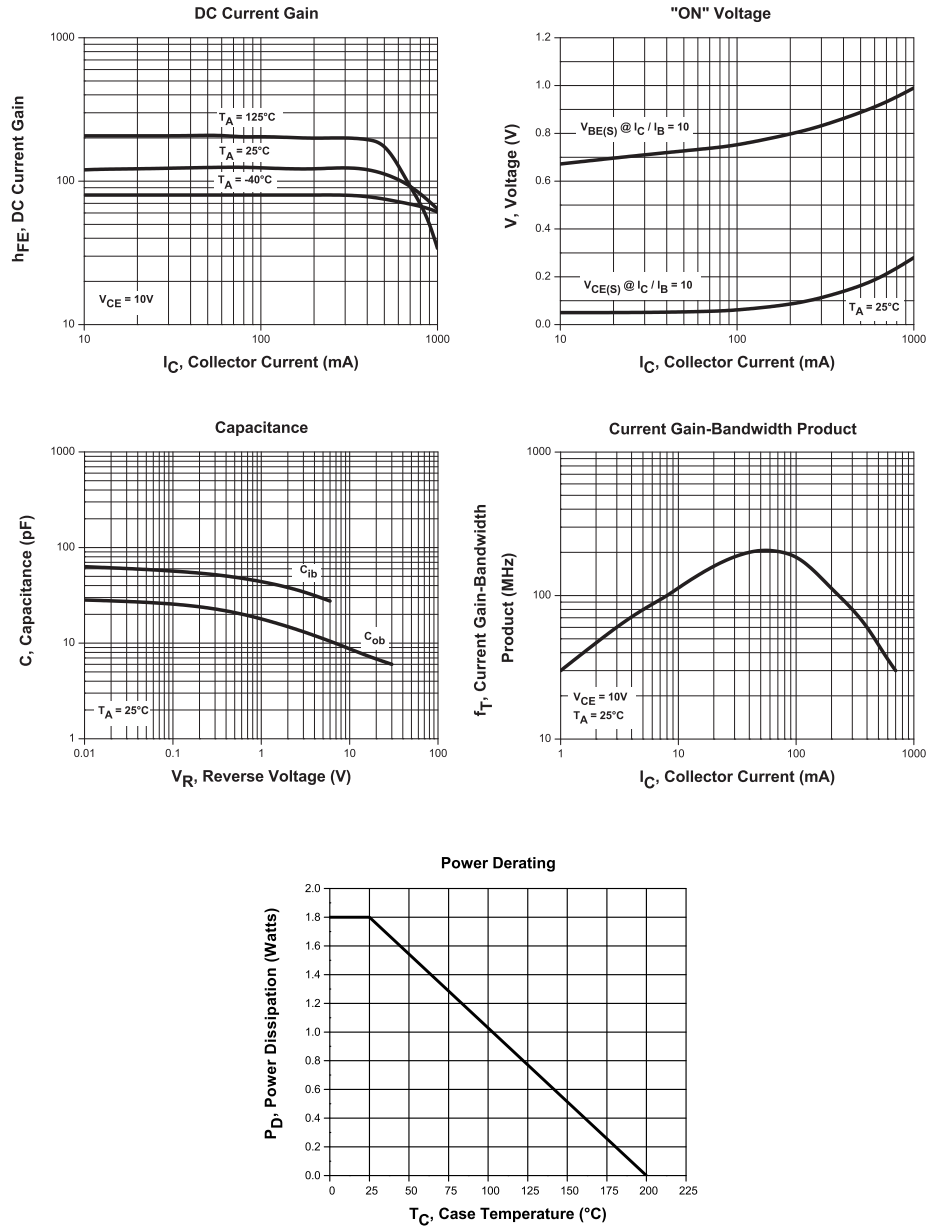
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TYPICAL ELECTRICAL CHARACTERISTICS



R0 (6-August 2013)

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).

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