



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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2N5306
2N5308

**SILICON
NPN DARLINGTON TRANSISTORS**



TO-92 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N5306 and 2N5308 are silicon NPN epitaxial planar Darlington transistors designed for high gain 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
Peak Collector Current
Continuous Base Current
Power Dissipation
Power Dissipation ($T_C=25^\circ\text{C}$)
Operating and Storage Junction Temperature
Thermal Resistance
Thermal Resistance

SYMBOL	2N5306	2N5308	UNITS
V_{CB0}	25	40	V
V_{CEO}	25	40	V
V_{EBO}		12	V
I_C		300	mA
I_{CM}		500	mA
I_B		100	mA
P_D		625	mW
P_D		1.5	W
T_J, T_{stg}		-65 to +150	$^\circ\text{C}$
θ_{JA}		200	$^\circ\text{C/W}$
θ_{JC}		83.3	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=\text{Rated } V_{CB0}$			100	nA
I_{CBO}	$V_{CB}=\text{Rated } V_{CB0}, T_A=100^\circ\text{C}$			20	μA
I_{EBO}	$V_{EB}=12\text{V}$			100	nA
BV_{CB0}	$I_C=10\mu\text{A}$ (2N5306)	25			V
BV_{CB0}	$I_C=10\mu\text{A}$ (2N5308)	40			V
BV_{CEO}	$I_C=10\text{mA}$ (2N5306)	25			V
BV_{CEO}	$I_C=10\text{mA}$ (2N5308)	40			V
BV_{EBO}	$I_E=10\mu\text{A}$	12			V
$V_{CE(SAT)}$	$I_C=200\text{mA}, I_B=200\mu\text{A}$			1.4	V
$V_{BE(SAT)}$	$I_C=200\text{mA}, I_B=200\mu\text{A}$			1.6	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=200\text{mA}$			1.5	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	7.0K		70K	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	20K			
h_{fe}	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}, f=1.0\text{kHz}$	7.0K			
$ h_{fe} $	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}, f=10\text{MHz}$	15.6			
h_{ie}	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}, f=1.0\text{kHz}$		650		k Ω
f_T	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}, f=10\text{MHz}$	60			MHz
C_{cb}	$V_{CB}=10\text{V}, f=1.0\text{MHz}$			10	pF
C_{eb}	$V_{EB}=0.5\text{V}, f=1.0\text{MHz}$		12		pF

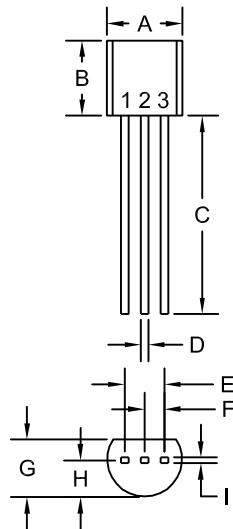
R2 (13-January 2016)

2N5306
2N5308

SILICON
NPN DARLINGTON TRANSISTORS



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

R2 (13-January 2016)

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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