

2N6298 2N6299 PNP  
2N6300 2N6301 NPN

COMPLEMENTARY SILICON  
DARLINGTON POWER TRANSISTORS



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N6298 series devices are complementary silicon Darlington power transistors manufactured by the epitaxial base process designed for high gain amplifier and medium speed switching applications.

**MARKING: FULL PART NUMBER**



TO-66 CASE

**MAXIMUM RATINGS:** ( $T_C=25^\circ\text{C}$ )

	<b>SYMBOL</b>	<b>2N6298 2N6300</b>	<b>2N6299 2N6301</b>	<b>UNITS</b>
Collector-Base Voltage	$V_{CBO}$	60	80	V
Collector-Emitter Voltage	$V_{CEO}$	60	80	V
Emitter-Base Voltage	$V_{EBO}$	5.0		V
Continuous Collector Current	$I_C$	8.0		A
Peak Collector Current	$I_{CM}$	16		A
Continuous Base Current	$I_B$	120		mA
Power Dissipation	$P_D$	75		W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +200		$^\circ\text{C}$
Thermal Resistance	$\Theta_{JC}$	2.33		$^\circ\text{C}/\text{W}$

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

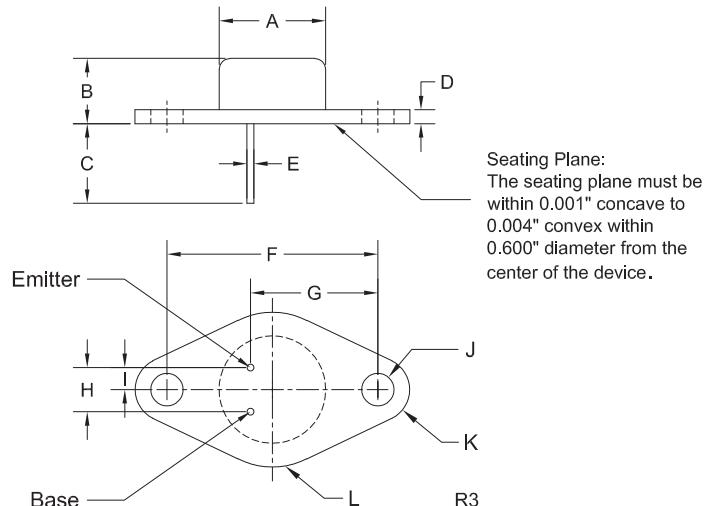
<b>SYMBOL</b>	<b>TEST CONDITIONS</b>	<b>MIN</b>	<b>MAX</b>	<b>UNITS</b>
$I_{CEV}$	$V_{CE}=\text{Rated } V_{CEO}, V_{BE}=1.5\text{V}$		0.5	mA
$I_{CEV}$	$V_{CE}=\text{Rated } V_{CEO}, V_{BE}=1.5\text{V}, T_C=150^\circ\text{C}$		5.0	mA
$I_{CEO}$	$V_{CE}=\frac{1}{2}\text{Rated } V_{CEO}$		0.5	mA
$I_{EBO}$	$V_{EB}=5.0\text{V}$		2.0	mA
$BV_{CEO}$	$I_C=100\text{mA}$ (2N6298, 2N6300)	60		V
$BV_{CEO}$	$I_C=100\text{mA}$ (2N6299, 2N6301)	80		V
$V_{CE(SAT)}$	$I_C=4.0\text{A}, I_B=16\text{mA}$		2.0	V
$V_{CE(SAT)}$	$I_C=8.0\text{A}, I_B=80\text{mA}$		3.0	V
$V_{BE(SAT)}$	$I_C=8.0\text{A}, I_B=80\text{mA}$		4.0	V
$V_{BE(ON)}$	$V_{CE}=3.0\text{V}, I_C=4.0\text{A}$		2.8	V
$h_{FE}$	$V_{CE}=3.0\text{V}, I_C=4.0\text{A}$	750	18K	
$h_{FE}$	$V_{CE}=3.0\text{V}, I_C=8.0\text{A}$	100		
$h_{fe}$	$V_{CE}=3.0\text{V}, I_C=3.0\text{A}, f=1.0\text{kHz}$	300		
$f_T$	$V_{CE}=3.0\text{V}, I_C=3.0\text{A}, f=1.0\text{MHz}$	4.0		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$ (NPN types)		200	pF
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$ (PNP types)		300	pF

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#### TO-66 CASE - MECHANICAL OUTLINE



MARKING:  
FULL PART NUMBER

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.470	0.500	11.94	12.70
B	0.250	0.340	6.35	8.64
C	0.360	-	9.14	-
D	0.050	0.075	1.27	1.91
E (DIA)	0.028	0.034	0.71	0.86
F	0.956	0.964	24.28	24.48
G	0.570	0.590	14.48	14.99
H	0.190	0.210	4.83	5.33
I	0.093	0.107	2.36	2.72
J (DIA)	0.142	0.152	3.61	3.86
K (RAD)	0.141		3.58	
L (RAD)	0.345		8.76	

TO-66 (REV:R3)

R3 (2-September 2014)

## 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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