

2N5629 2N5630 NPN
2N6029 2N6030 PNP

**COMPLEMENTARY SILICON
POWER TRANSISTORS**



TO-3 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N5629, 2N6029 series devices are complementary silicon power transistors, manufactured by the epitaxial base process, designed for high voltage and high power amplifier applications.

MARKING: FULL PART NUMBER

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

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Continuous Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	2N5629	2N5630	UNITS
	2N6029	2N6030	
V_{CB0}	100	120	V
V_{CEO}	100	120	V
V_{EBO}		7.0	V
I_C		16	A
I_{CM}		20	A
I_B		5.0	A
P_D		200	W
T_J, T_{stg}	-65 to +200		$^\circ\text{C}$
θ_{JC}	0.875		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=\text{Rated } V_{CB0}$		1.0	mA
I_{CEX}	$V_{CE}=\text{Rated } V_{CEO}, V_{EB}=1.5\text{V}$		1.0	mA
I_{CEX}	$V_{CE}=\text{Rated } V_{CEO}, V_{EB}=1.5\text{V}, T_C=150^\circ\text{C}$		5.0	mA
I_{CEO}	$V_{CE}=\frac{1}{2}\text{Rated } V_{CEO}$		1.0	mA
I_{EBO}	$V_{EB}=7.0\text{V}$		1.0	mA
BV_{CEO}	$I_C=200\text{mA}$ (2N5629, 2N6029)	100		V
BV_{CEO}	$I_C=200\text{mA}$ (2N5630, 2N6030)	120		V
$V_{CE(SAT)}$	$I_C=10\text{A}, I_B=1.0\text{A}$		1.0	V
$V_{CE(SAT)}$	$I_C=16\text{A}, I_B=4.0\text{A}$		2.0	V
$V_{BE(SAT)}$	$I_C=10\text{A}, I_B=1.0\text{A}$		1.8	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=8.0\text{A}$		1.5	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=8.0\text{A}$ (2N5629, 2N6029)	25	100	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=8.0\text{A}$ (2N5630, 2N6030)	20	80	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=16\text{A}$	4.0		
h_{fe}	$V_{CE}=10\text{V}, I_C=4.0\text{A}, f=1.0\text{kHz}$	15		
f_T	$V_{CE}=20\text{V}, I_C=1.0\text{A}, f=500\text{kHz}$	1.0		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$ (NPN)		500	pF
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$ (PNP)		1.0	nF

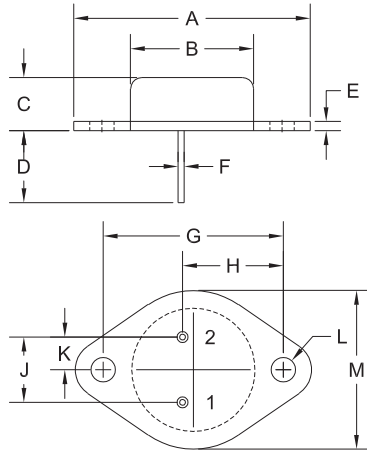
R1 (19-March 2014)

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TO-3 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	1.516	1.573	38.50	39.96
B (DIA)	0.748	0.875	19.00	22.23
C	0.250	0.450	6.35	11.43
D	0.433	0.516	11.00	13.10
E	0.054	0.065	1.38	1.65
F	0.035	0.045	0.90	1.15
G	1.177	1.197	29.90	30.40
H	0.650	0.681	16.50	17.30
J	0.420	0.440	10.67	11.18
K	0.205	0.225	5.21	5.72
L (DIA)	0.151	0.172	3.84	4.36
M	0.984	1.050	25.00	26.67

TO-3 (REV: R2)

R2

LEAD CODE:

- 1) Base
- 2) Emitter
- Case) Collector

MARKING:

FULL PART NUMBER

R1 (19-March 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).

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