

2N5629 2N5630 NPN  
2N6029 2N6030 PNP

**COMPLEMENTARY SILICON  
POWER TRANSISTORS**



**TO-3 CASE**



[www.centrasemi.com](http://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		$^\circ\text{C}$
$\theta_{JC}$	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

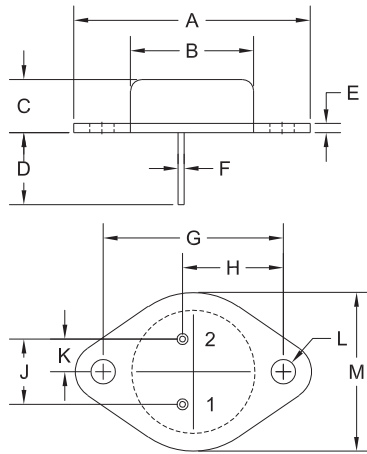
R1 (19-March 2014)

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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



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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.

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- 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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### CONTACT US

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