

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N5629 2N5630 NPN

2N6029 2N6030 PNP

COMPLEMENTARY SILICON POWER  
TRANSISTORS

JEDEC TO-3 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5629 2N6029 series types are complementary silicon power transistors manufactured by the epitaxial base process, mounted in a hermetically sealed metal case designed for high voltage and high power amplifier applications.

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

	SYMBOL	2N5629 2N6029	2N5630 2N6030	UNIT
Collector-Emitter Voltage	$V_{CE0}$	100	120	V
Collector-Base Voltage	$V_{CB0}$	100	120	V
Emitter-Base Voltage	$V_{EB0}$		7.0	V
Collector Current	$I_C$		16	A
Collector Current-PEAK	$I_{CM}$		20	A
Base Current	$I_B$		5.0	A
Power Dissipation	$P_D$		200	W
Operating and Storage Junction Temperature	$T_J, T_{STG}$	-60 to +200		$^\circ\text{C}$
Thermal Resistance	$\theta_{JC}$	0.875		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
$I_{CEV}$	$V_{CE}=\text{Rated } V_{CB}, V_{EB}(\text{OFF})=1.5\text{V}$		1.0	mA
$I_{CEV}$	$V_{CE}=\text{Rated } V_{CB}, V_{EB}(\text{OFF})=1.5\text{V}, T_C=150^\circ\text{C}$		5.0	mA
$I_{CE0}$	$V_{CE}=\frac{1}{2} \text{ Rated } V_{CE0}$		1.0	mA
$I_{CB0}$	$V_{CB}=\text{Rated } V_{CB0}$		1.0	mA
$I_{EB0}$	$V_{BE}=7.0\text{V}$		1.0	mA
$BV_{CE0}$	$I_C=200\text{mA}$ (2N5629, 2N6029)	100		V
$BV_{CE0}$	$I_C=200\text{mA}$ (2N5630, 2N6030)	120		V
$V_{CE}(\text{SAT})$	$I_C=10\text{A}, I_B=1.0\text{A}$		1.0	V
$V_{CE}(\text{SAT})$	$I_C=16\text{A}, I_B=4.0\text{A}$		2.0	V
$V_{BE}(\text{SAT})$	$I_C=10\text{A}, I_B=1.0\text{A}$		1.8	V
$V_{BE}(\text{ON})$	$V_{CE}=2.0\text{V}, I_C=8.0\text{A}$		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	-	
$h_{fe}$	$V_{CE}=10\text{V}, I_C=4.0\text{A}, f=10\text{kHz}$	15	-	
$f_T$	$V_{CE}=20\text{V}, I_C=1.0\text{A}, f=0.5\text{MHz}$	1.0	-	MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$		500	pF
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=0.1\text{MHz}$		1000	pF