

CentralTM 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	θ_{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_{CEO}	$V_{CE}=\frac{1}{2} \text{ Rated } V_{CE0}$		1.0	mA
I_{CBO}	$V_{CB}=\text{Rated } V_{CB0}$		1.0	mA
I_{EBO}	$V_{BE}=7.0\text{V}$		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