

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

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Manufacturers of World Class Discrete Semiconductors

TIP29  
TIP29A  
TIP29B  
TIP29C

SILICON NPN POWER TRANSISTOR  
1 AMP, 30 WATTS

JEDEC TO-220 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR TIP29 Series is a NPN Epitaxial-Base Silicon Power Transistor designed for power amplifier and high-speed switching applications.

## MAXIMUM RATINGS (T<sub>C</sub>=25°C unless otherwise noted)

	SYMBOL	TIP29	TIP29A	TIP29B	TIP29C	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	40	60	80	100	V
Emitter-Base Voltage	V <sub>EB0</sub>	5.0	5.0	5.0	5.0	V
Collector-Emitter Voltage	V <sub>CE0</sub>	40	60	80	100	V
Collector Current, Continuous	I <sub>C</sub>	1.0	1.0	1.0	1.0	A
Collector Current, Peak	I <sub>CM</sub>	3.0	3.0	3.0	3.0	A
Base Current	I <sub>B</sub>	0.4	0.4	0.4	0.4	A
Power Dissipation	P <sub>D</sub>	30	30	30	30	W
Power Dissipation (T <sub>A</sub> =25°C)	P <sub>D</sub>	2.0	2.0	2.0	2.0	W
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 TO +150		-65 TO +150		°C

## ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I <sub>CEO</sub>	V <sub>CE</sub> =30V (TIP29, TIP29A)		0.3	mA
I <sub>CEO</sub>	V <sub>CE</sub> =60V (TIP29B, TIP29C)		0.3	mA
I <sub>CES</sub>	V <sub>CE</sub> =Rated V <sub>CE0</sub>		0.2	mA
I <sub>EB0</sub>	V <sub>EB</sub> =5.0V		1.0	mA
BV <sub>CE0</sub>	I <sub>C</sub> =30mA, (TIP29)	40		V
BV <sub>CE0</sub>	I <sub>C</sub> =30mA, (TIP29A)	60		V
BV <sub>CE0</sub>	I <sub>C</sub> =30mA, (TIP29B)	80		V
BV <sub>CE0</sub>	I <sub>C</sub> =30mA, (TIP29C)	100		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =1.0A, I <sub>B</sub> =125mA		0.7	V
V <sub>BE(on)</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =1.0A		1.3	V
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =0.2A	40		-
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =1.0A	15	75	-
h <sub>fe</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.2A, f=1 kHz	20		-
f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.2A, f=1 MHz	3		MHz
ton	I <sub>C</sub> =1.0A, I <sub>B1</sub> =I <sub>B2</sub> =100mA, R <sub>L</sub> =30 OHMS	0.5 TYP		uS
toff	I <sub>C</sub> =1.0A, I <sub>B1</sub> =I <sub>B2</sub> =100mA, R <sub>L</sub> =30 OHMS	2.0 TYP		uS

## 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

#### Corporate Headquarters & Customer Support Team

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