

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

	SYMBOL	TIP29	TIP29A	TIP29B	TIP29C	UNIT
Collector-Base Voltage	$V_{CB0}$	40	60	80	100	V
Emitter-Base Voltage	$V_{EB0}$	5.0	5.0	5.0	5.0	V
Collector-Emitter Voltage	$V_{CE0}$	40	60	80	100	V
Collector Current, Continuous	$I_C$	1.0	1.0	1.0	1.0	A
Collector Current, Peak	$I_{CM}$	3.0	3.0	3.0	3.0	A
Base Current	$I_B$	0.4	0.4	0.4	0.4	A
Power Dissipation	$P_D$	30	30	30	30	W
Power Dissipation ( $T_A=25^{\circ}\text{C}$ )	$P_D$	2.0	2.0	2.0	2.0	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 TO +150		-65 TO +150		$^{\circ}\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
$I_{CE0}$	$V_{CE}=30\text{V}$ (TIP29, TIP29A)		0.3	mA
$I_{CE0}$	$V_{CE}=60\text{V}$ (TIP29B, TIP29C)		0.3	mA
$I_{CES}$	$V_{CE}=\text{Rated } V_{CE0}$		0.2	mA
$I_{EB0}$	$V_{EB}=5.0\text{V}$		1.0	mA
$BV_{CE0}$	$I_C=30\text{mA}$ , (TIP29)	40		V
$BV_{CE0}$	$I_C=30\text{mA}$ , (TIP29A)	60		V
$BV_{CE0}$	$I_C=30\text{mA}$ , (TIP29B)	80		V
$BV_{CE0}$	$I_C=30\text{mA}$ , (TIP29C)	100		V
$V_{CE}(\text{SAT})$	$I_C=1.0\text{A}$ , $I_B=125\text{mA}$		0.7	V
$V_{BE}(\text{on})$	$V_{CE}=4.0\text{V}$ , $I_C=1.0\text{A}$		1.3	V
$h_{FE}$	$V_{CE}=4.0\text{V}$ , $I_C=0.2\text{A}$	40		-
$h_{FE}$	$V_{CE}=4.0\text{V}$ , $I_C=1.0\text{A}$	15	75	-
$h_{fe}$	$V_{CE}=10\text{V}$ , $I_C=0.2\text{A}$ , $f=1\text{ kHz}$	20		-
$f_T$	$V_{CE}=10\text{V}$ , $I_C=0.2\text{A}$ , $f=1\text{ MHz}$	3		MHz
$t_{on}$	$I_C=1.0\text{A}$ , $I_{B1}=I_{B2}=100\text{mA}$ , $R_L=30\text{ OHMS}$	0.5 TYP		$\mu\text{S}$
$t_{off}$	$I_C=1.0\text{A}$ , $I_{B1}=I_{B2}=100\text{mA}$ , $R_L=30\text{ OHMS}$	2.0 TYP		$\mu\text{S}$

## 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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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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