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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°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°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		°C

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I _{CEO}	V _{CE} =30V (TIP29, TIP29A)		0.3	mA
I _{CEO}	V _{CE} =60V (TIP29B, TIP29C)		0.3	mA
I _{CES}	V _{CE} =Rated V _{CE0}		0.2	mA
I _{EB0}	V _{EB} =5.0V		1.0	mA
BV _{CE0}	I _C =30mA, (TIP29)	40		V
BV _{CE0}	I _C =30mA, (TIP29A)	60		V
BV _{CE0}	I _C =30mA, (TIP29B)	80		V
BV _{CE0}	I _C =30mA, (TIP29C)	100		V
V _{CE(SAT)}	I _C =1.0A, I _B =125mA		0.7	V
V _{BE(on)}	V _{CE} =4.0V, I _C =1.0A		1.3	V
h _{FE}	V _{CE} =4.0V, I _C =0.2A	40		-
h _{FE}	V _{CE} =4.0V, I _C =1.0A	15	75	-
h _{fe}	V _{CE} =10V, I _C =0.2A, f=1 kHz	20		-
f _T	V _{CE} =10V, I _C =0.2A, f=1 MHz	3		MHz
t _{on}	I _C =1.0A, I _{B1} =I _{B2} =100mA, R _L =30 OHMS	0.5 TYP		uS
t _{off}	I _C =1.0A, I _{B1} =I _{B2} =100mA, R _L =30 OHMS	2.0 TYP		uS