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TIP29A, TIP29B, TIP29C NPN Silicon Epitaxial Transistor Medium Power Amp, Switch TO-220 Type Package

Description:

The TIP29A, TIP29B, and TIP29C are General-Purpose Medium-Power silicon NPN transistors in a TO-220 type package designed for switching and amplifier applications. They are especially designed for series and shunt regulators and as a driver and output stage of high-fidelity amplifiers.

Features:

- Medium Power Linear Switching Applications
- Complementary to TIP30 Series

Absolute Maximum Ratings: ($T_C = +25^\circ\text{C}$ unless otherwise specified)

Collector-Base Voltage, V_{CBO}	
TIP29A	60V
TIP29B	80V
TIP29C	100V
Collector-Emitter Voltage, V_{CEO}	
TIP29A	60V
TIP29B	80V
TIP29C	100V
Emitter-Base Voltage, V_{EBO}	5V
Collector Current, I_C	
DC	1A
Pulse	3A
Base Current, I_B	0.4A
Collector Dissipation, P_C	
($T_A = 25^\circ\text{C}$)	2W
($T_C = 25^\circ\text{C}$)	30W
Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	-65° to +150°C

Electrical Characteristics: ($T_C = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Sustaining Voltage TIP29A	$V_{CEO(sus)}$	$I_C = 30\text{mA}, I_B = 0$	60	-	-	V
TIP29B			80	-	-	v
TIP29C			100	-	-	v
Collector Cutoff Current TIP29A	I_{CEO}	$V_{CE} = 20\text{V}, I_B = 0$	-	-	0.3	mA
TIP29B, TIP29C		$V_{CE} = 60\text{V}, I_B = 0$	-	-	0.3	mA
TIP29A	I_{CES}	$V_{CE} = 60\text{V}, V_{EB} = 0$	-	-	200	μA
TIP29B		$V_{CE} = 80\text{V}, V_{EB} = 0$	-	-	200	μA
TIP29C		$V_{CE} = 100\text{V}, V_{EB} = 0$	-	-	200	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	-	-	1	mA
DC Current Gain	h_{FE}	$V_{CE} = 4\text{V}, I_C = 0.2\text{A}, \text{Note 1}$	40	-	-	
		$V_{CE} = 4\text{V}, I_C = 1\text{A}, \text{Note 1}$	15	-	75	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{A}, I_B = 125\text{mA}, \text{Note 1}$	-	-	0.7	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$V_{CE} = 4\text{V}, I_C = 1\text{A}, \text{Note 1}$	-	-	1.3	V
Current Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 200\text{mA}$	3	-	-	MHz

Note 1. Pulse test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

