

# TIP29 SERIES (TIP29/29A/29B/29C)

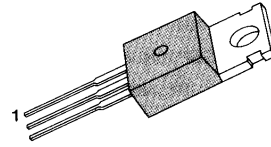
## NPN EPITAXIAL SILICON TRANSISTOR

**MEDIUM POWER LINEAR  
SWITCHING APPLICATIONS**  
• Complementary to TIP30/30A/30B/30C

### ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage : TIP29 : TIP29A : TIP29B : TIP29C	$V_{CBO}$	40	V
		60	V
		80	V
		100	V
Collector Emitter Voltage : TIP29A : TIP29B : TIP29C	$V_{CEO}$	40	V
		60	V
		80	V
		100	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current (DC)	$I_C$	1	A
Collector Current (Pulse)	$I_C$	3	A
Base Current	$I_B$	0.4	A
Collector Dissipation ( $T_C=25^\circ\text{C}$ )	$P_C$	30	W
Collector Dissipation ( $T_A=25^\circ\text{C}$ )	$P_C$	2	W
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-65 ~ 150	$^\circ\text{C}$

TO-220



1.Base 2.Collector 3.Emitter

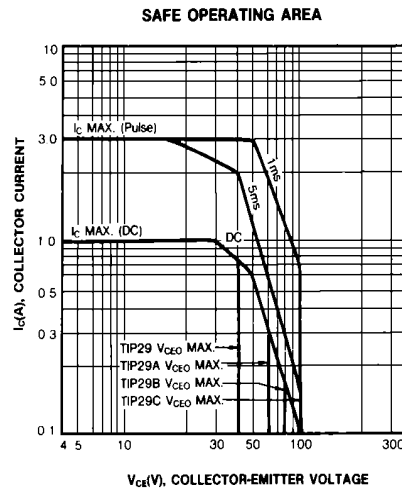
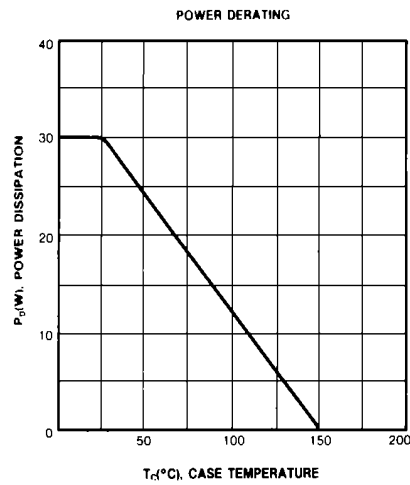
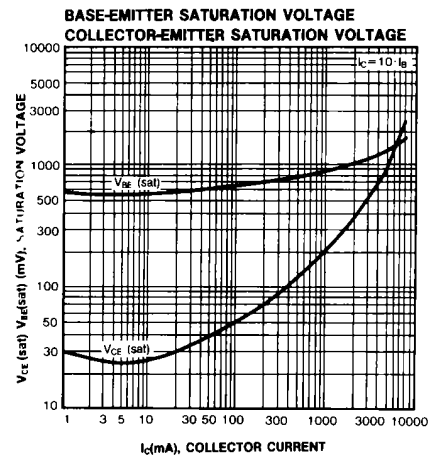
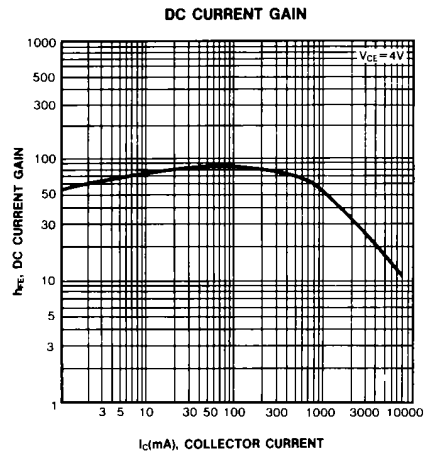
### ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ )

Characteristic	Symbol	Test Conditions	Min	Max	Unit
*Collector Emitter Sustaining Voltage: TIP29 : TIP29A : TIP29B : TIP29C	$BV_{CEO(sus)}$	$I_C = 30\text{mA}, I_B = 0$	40 60 80 100		V
Collector Cutoff Current : TIP29/29A : TIP29B/29C	$I_{CEO}$	$V_{CE} = 30\text{V}, I_B = 0$ $V_{CE} = 60\text{V}, I_B = 0$		0.3 0.3	mA
Collector Cutoff Current : TIP29 : TIP29A : TIP29B : TIP29C	$I_{CES}$	$V_{CE} = 40\text{V}, V_{EB} = 0$ $V_{CE} = 60\text{V}, V_{EB} = 0$ $V_{CE} = 80\text{V}, V_{EB} = 0$ $V_{CE} = 100\text{V}, V_{EB} = 0$		200 200 200 200	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$		1.0	mA
*DC Current Gain	$h_{FE}$	$V_{CE} = 4\text{V}, I_C = 0.2\text{A}$ $V_{CE} = 4\text{V}, I_C = 1\text{A}$	40 15	75	
*Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{A}, I_B = 125\text{mA}$		0.7	V
*Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 4\text{V}, I_C = 1\text{A}$		1.3	V
Current Gain Bandwidth Product	$f_T$	$V_{CE} = 10\text{V}, I_C = 200\text{mA}$ $f = 1\text{MHz}$	3.0		MHz

\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

# TIP29 SERIES

## (TIP29/29A/29B/29C) NPN EPITAXIAL SILICON TRANSISTOR



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