

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

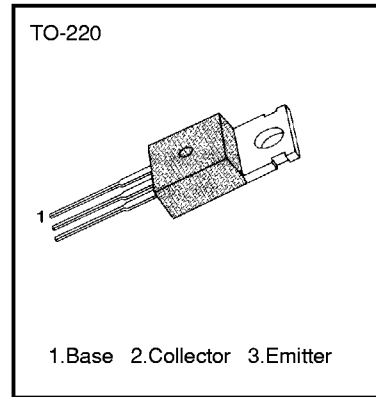
NPN EPITAXIAL SILICON TRANSISTOR

MEDIUM POWER LINEAR SWITCHING APPLICATIONS

• Complementary to TIP30/30A/30B/30C

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage : TIP29	V_{CBO}	40	V
: TIP29A		60	V
: TIP29B		80	V
: TIP29C		100	V
Collector Emitter Voltage : TIP29A	V_{CEO}	40	V
: TIP29B		60	V
: TIP29C		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	$^\circ\text{C}$



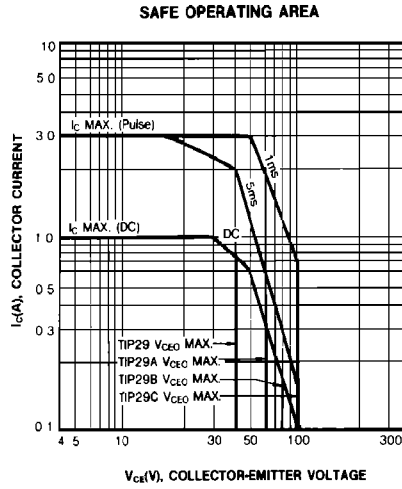
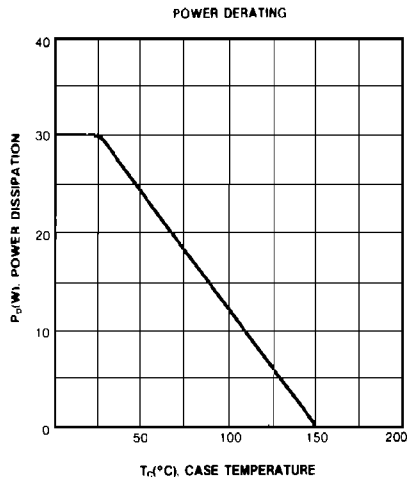
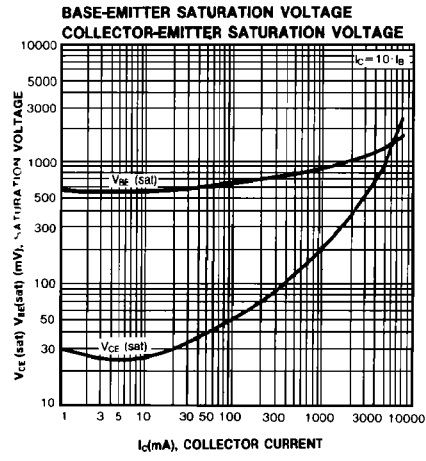
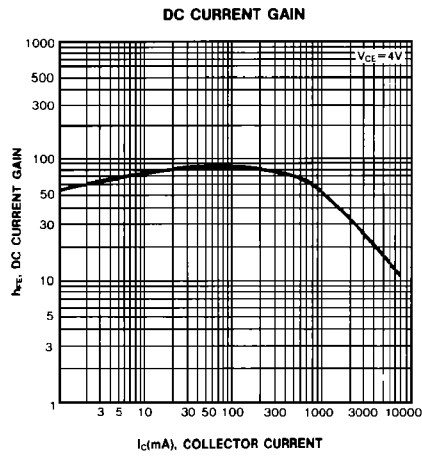
ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$)

Characteristic	Symbol	Test Conditions	Min	Max	Unit	
*Collector Emitter Sustaining Voltage: TIP29	$BV_{CEO(sus)}$	$I_C = 30\text{mA}, I_B = 0$	40		V	
: TIP29A			60		V	
: TIP29B			80		V	
: TIP29C			100		V	
Collector Cutoff Current : TIP29/29A	I_{CEO}	$V_{CE} = 30\text{V}, I_B = 0$		0.3	mA	
: TIP29B/29C		$V_{CE} = 60\text{V}, I_B = 0$		0.3	mA	
Collector Cutoff Current : TIP29	I_{CES}	$V_{CE} = 40\text{V}, V_{EB} = 0$		200	μA	
: TIP29A			$V_{CE} = 60\text{V}, V_{EB} = 0$		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}	$V_{EB} = 5\text{V}, I_C = 0$		1.0	mA	
*DC Current Gain	h_{FE}	$V_{CE} = 4\text{V}, I_C = 0.2\text{A}$	40			
		$V_{CE} = 4\text{V}, I_C = 1\text{A}$	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 $\leq 2\%$

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