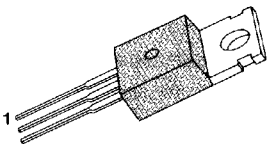
TIP29 SERIES
(TIP29/29A/29B/29C) NPN EPITAXIAL SILICON TRANSISTOR

MEDIUM POWER LINEAR SWITCHING APPLICATIONS

• Complementary to TIP30/30A/30B/30C

TO-220



1.Base 2.Collector 3.Emitter

ABSOLUTE MAXIMUM RATINGS

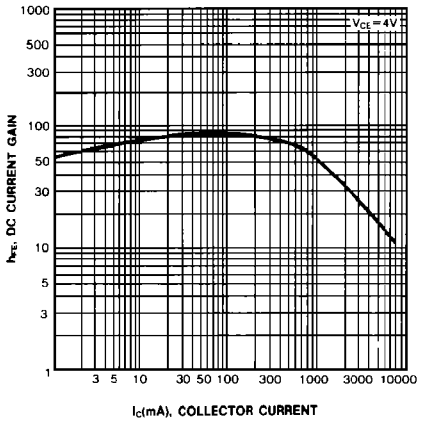
Characteristic		Symbol	Rating	Unit
Collector Base Voltage	: TIP29	V_{CBO}	40	V
	: TIP29A		60	V
	: TIP29B		80	V
	: TIP29C		100	V
Collector Emitter Voltage	: TIP29	V_{CEO}	40	V
	: TIP29A		60	V
	: TIP29B		80	V
	: TIP29C		100	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current (DC)		I_C	1	A
Collector Current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

ELECTRICA CHARACTERISTICS (T_C =25°C)

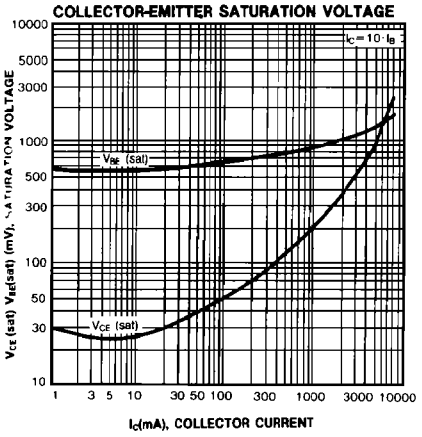
Characteristic		Symbol	Test Conditions	Min	Max	Unit
*Collector Emitter Sustaining Voltage	: TIP29	BV_{CEO}(sus)	I_C = 30mA, I_B = 0	40		V
	: TIP29A			60		V
	: TIP29B			80		V
	: TIP29C			100		V
Collector Cutoff Current	: TIP29/29A	I_{CEO}	V_{CE} = 30V, I_B = 0		0.3	mA
	: TIP29B/29C		V_{CE} = 60V, I_B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

* Pulse Test: PW≤300μs, Duty Cycle≤2%

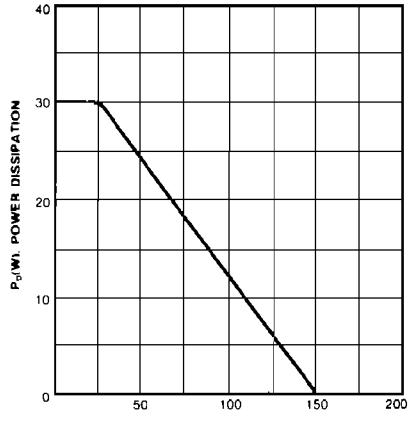
DC CURRENT GAIN



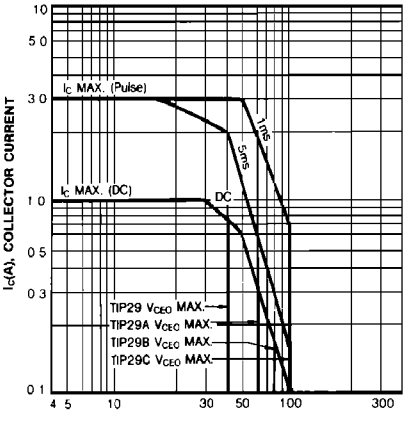
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



POWER DERATING



SAFE OPERATING AREA



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