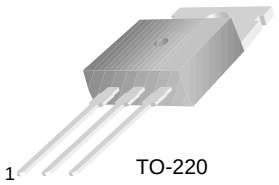
FAIRCHILD
SEMICONDUCTOR®

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

Medium Power Linear Switching Applications

- Complementary to TIP30/30A/30B/30C



TO-220

1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

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

Electrical Characteristics T_C=25°C unless otherwise noted

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

* Pulse Test: PW≤300µs, Duty Cycle≤2%

Typical Characteristics

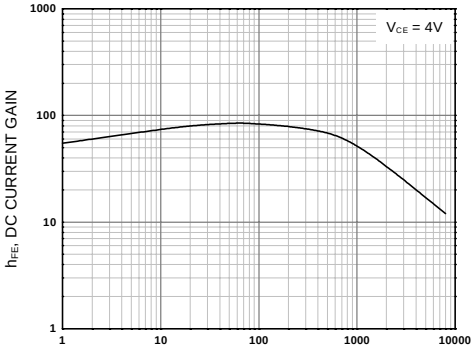


Figure 1. DC current Gain

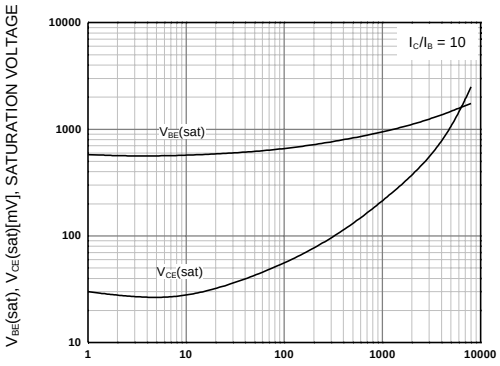


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

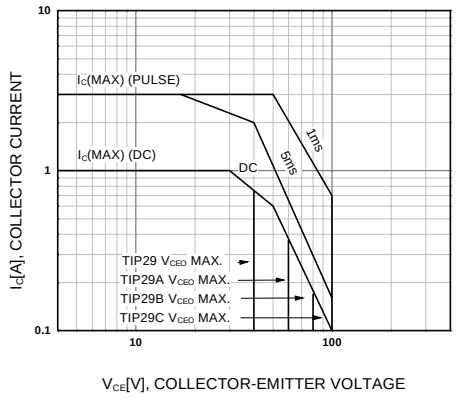


Figure 3. Safe Operating Area

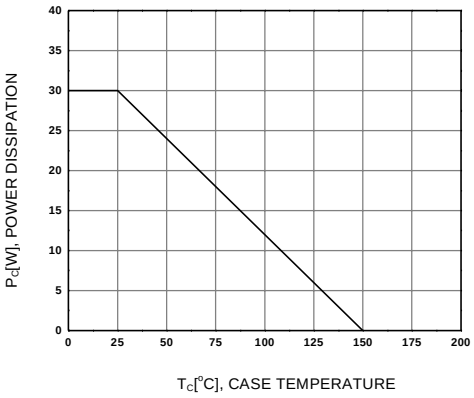
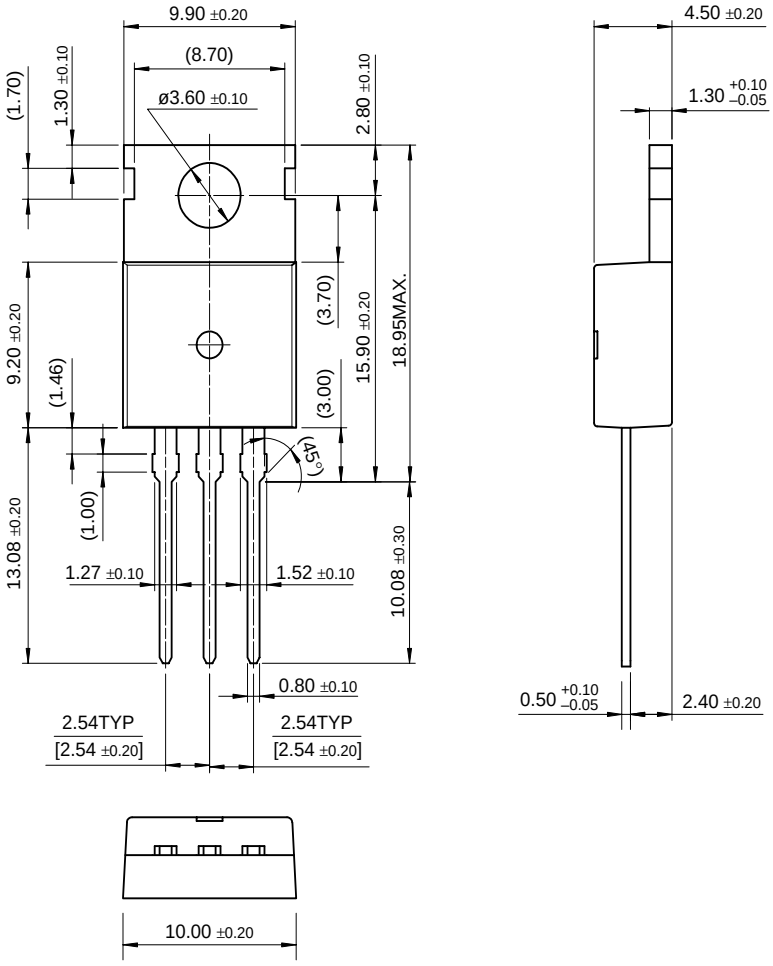


Figure 4. Power Derating

Package Demensions

TO-220



Dimensions in Millimeters

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