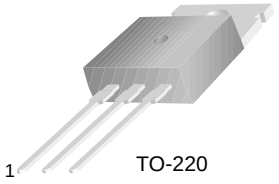
FAIRCHILD SEMICONDUCTOR™

TIP41 Series(TIP41/41A/41B/41C)

Medium Power Linear Switching Applications

- Complement to TIP42/42A/42B/42C



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-Emitter Voltage: TIP41	40	V
	: TIP41A	60	V
	: TIP41B	80	V
	: TIP41C	100	V
V_{CEO}	Collector-Emitter Voltage: TIP41	40	V
	: TIP41A	60	V
	: TIP41B	80	V
	: TIP41C	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	6	A
I_{CP}	Collector Current (Pulse)	10	A
I_B	Base Current	2	A
P_C	Collector Dissipation (T_C=25°C)	65	W
P_C	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				
	: TIP41	I_C = 30mA, I_B = 0	40		V
	: TIP41A		60		V
	: TIP41B		80		V
	: TIP41C		100		V
I_{CEO}	Collector Cut-off Current				
	: TIP41/41A	V_{CE} = 30V, I_B = 0		0.7	mA
	: TIP41B/41C	V_{CE} = 60V, I_B = 0		0.7	mA
I_{CES}	Collector Cut-off Current				
	: TIP41	V_{CE} = 40V, V_{EB} = 0		400	μA
	: TIP41A	V_{CE} = 60V, V_{EB} = 0		400	μA
	: TIP41B	V_{CE} = 80V, V_{EB} = 0		400	μA
	: TIP41C	V_{CE} = 100V, V_{EB} = 0		400	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 5V, I_C = 0		1	mA
h_{FE}	* DC Current Gain	V_{CE} = 4V,I_C = 0.3A	30		
		V_{CE} = 4V, I_C = 3A	15	75	
V_{CE}(sat)	* Collector-Emitter Saturation Voltage	I_C = 6A, I_B = 600mA		1.5	V
V_{BE}(sat)	* Base-Emitter Saturation Voltage	V_{CE} = 4V, I_C = 6A		2.0	V
f_T	Current Gain Bandwidth Product	V_{CE} = 10V, I_C = 500mA	3.0		MHz

* Pulse Test: PW≤300μs, Duty Cycle≤2%

Typical Characteristics

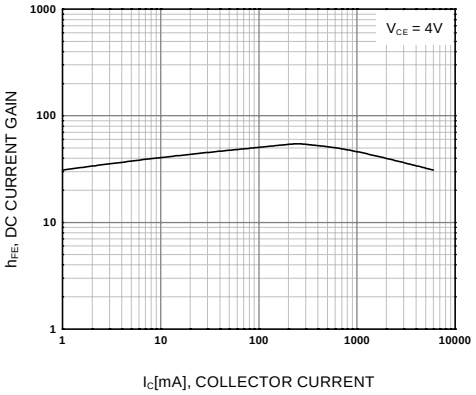


Figure 1. DC current Gain

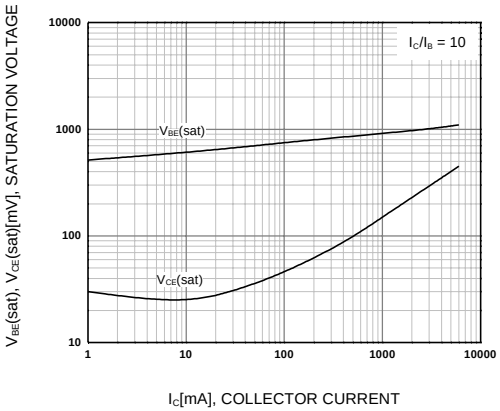


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

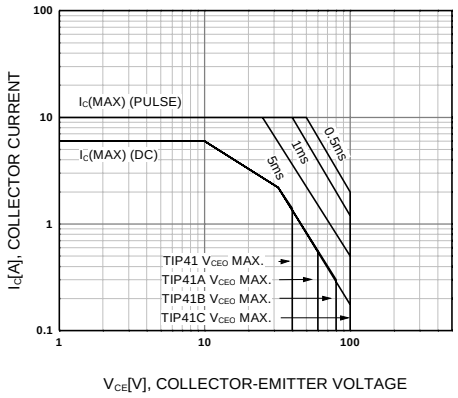


Figure 3. Safe Operating Area

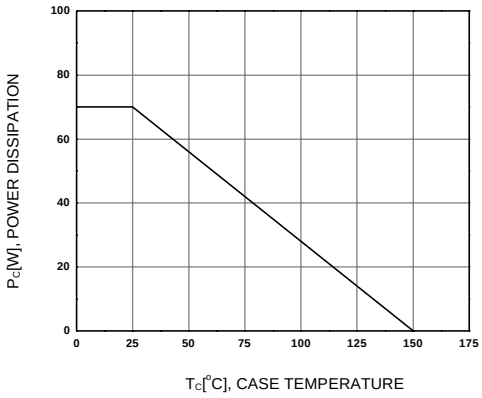
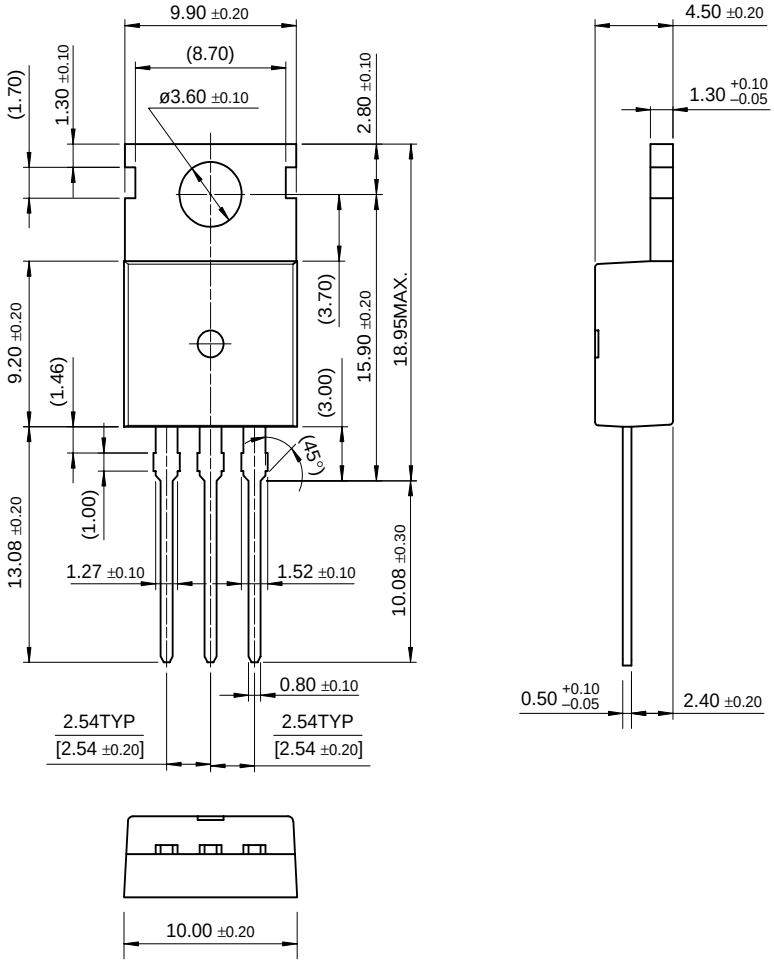


Figure 4. Power Derating

Package Demensions

TO-220



Dimensions in Millimeters

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