

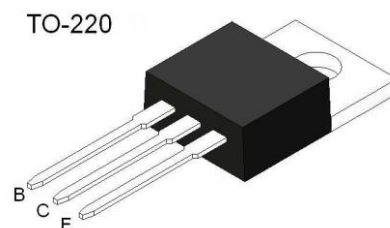
TO-220 Plastic-Encapsulate Transistors (NPN)

Feature

- High switching speed
- Complementary to TIP42C
- Marking: TIP41C

Application

- General purpose circuits
- Audio amplifier
- Power linear and switching



Absolute Maximum Rating ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter		Symbol	Value	Unit
Collector-Base Voltage		BV_{CBO}	100	V
Collector-Emitter Voltage		BV_{CEO}	100	V
Emitter-Base Voltage		BV_{EBO}	5	V
Collector Current(DC)		I_C	6	A
Collector Dissipation	$T_a = 25^{\circ}\text{C}$	P_C	2	W
	$T_c = 25^{\circ}\text{C}$		65	
Junction Temperature		T_j	150	$^{\circ}\text{C}$
Storage Temperature		T_{stg}	-65~150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV_{CBO}	$I_C = 0.5\text{mA}$, $I_E = 0$	100			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = 10\text{mA}$, $I_B = 0$	100			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = 0.5\text{mA}$, $I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CE} = 100\text{V}$, $I_E = 0$			0.1	mA
Collector cut-off current	I_{CEO}	$V_{CB} = 60\text{V}$, $I_E = 0$			0.7	mA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$			1	mA
* DC current gain	h_{FE}	$V_{CE} = 4\text{V}$, $I_C = 0.3\text{A}$ $V_{CE} = 4\text{V}$, $I_C = 3\text{A}$	20 15			
*Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 6\text{A}$, $I_B = 0.6\text{A}$			1.5	V
* Base-Emitter ON Voltage	$V_{BE(on)}$	$V_{CE} = 4\text{V}$, $I_C = 6\text{A}$			2.0	V
Current Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}$, $I_C = 500\text{mA}$	3.0			MHz

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



Typical Characteristics

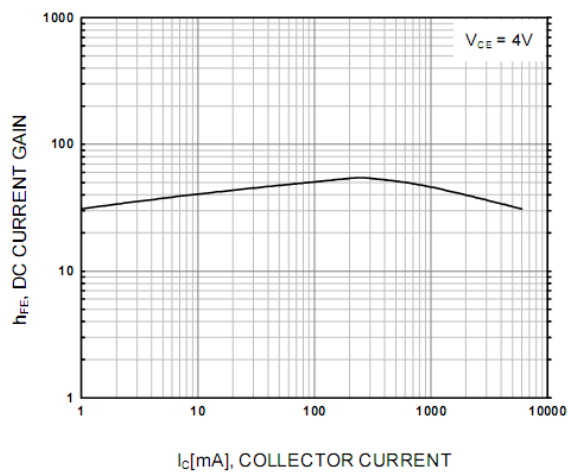


Figure 1. DC current Gain

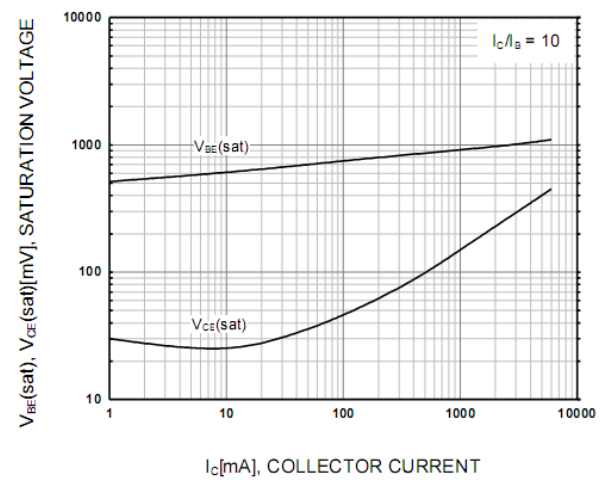


Figure 2. Base-Emitter Saturation Voltage and Collector-Emitter Saturation Voltage

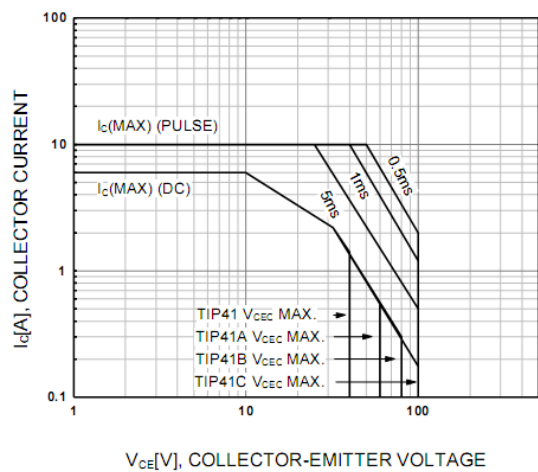


Figure 3. Safe Operating Area

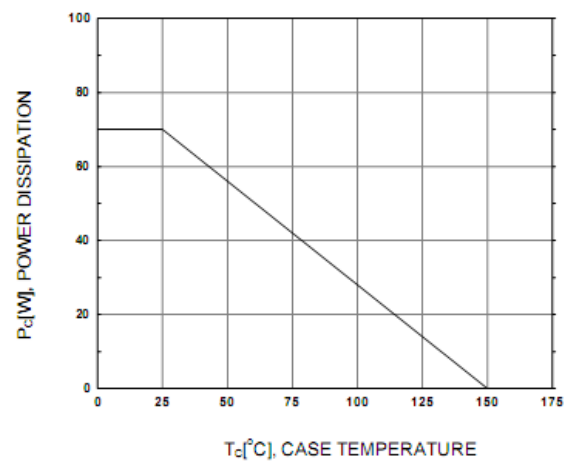
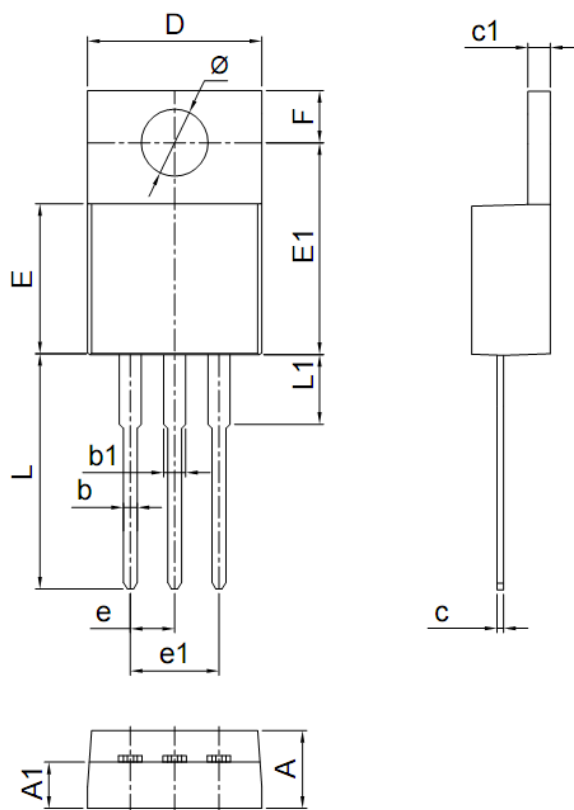


Figure 4. Power Derating



Package Dimensions



Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.34	4.67	0.171	0.184
A1	2.52	2.82	0.099	0.111
b	0.71	0.91	0.028	0.036
b1	1.17	1.37	0.046	0.054
c	0.30	0.50	0.012	0.020
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
E1	12.00	12.50	0.472	0.492
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
F	2.60	2.80	0.102	0.110
L	13.20	13.80	0.520	0.543
L1	3.80	4.20	0.150	0.165
Φ	3.60	3.96	0.142	0.156