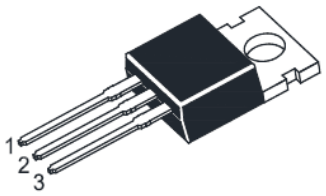
TIP31C

NPN Silicon Epitaxial Planar Transistor

for power switching and amplifier applications



1.Base 2.Collector 3.Emitter

TO-220FB Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	100	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	3	A
Collector Current (Pulse)	I_{CP}	5	A
Base Current	I_B	1	A
Power Dissipation (T_a = 25 °C)	P_{tot}	2	W
Power Dissipation (T_c = 25 °C)	P_{tot}	40	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°C

Dated：19/10/2020 Rev: 02

Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain					
at V_{CE} = 4 V, I_C = 1 A		h_{FE}	25	-	-
at V_{CE} = 4 V, I_C = 3 A	Current Gain Group O	h_{FE}	10	50	-
	Y	h_{FE}	30	80	-
Collector Emitter Cutoff Current at V_{CE} = 100 V		I_{CES}	-	0.2	mA
Collector Emitter Cutoff Current at V_{CE} = 60 V		I_{CEO}	-	0.3	mA
Emitter Base Cutoff Current at V_{EB} = 5 V		I_{EBO}	-	1	mA
Collector Emitter Sustaining Voltage at I_C = 30 mA		$V_{CEO(sus)}$	100	-	V
Collector Emitter Saturation Voltage at I_C = 3 A, I_B = 375 mA		$V_{CE(sat)}$	-	1.2	V
Base Emitter On Voltage at V_{CE} = 4 V, I_C = 3 A		$V_{BE(on)}$	-	1.8	V
Transition Frequency at V_{CE} = 10 V, I_C = 500 mA, f = 1 MHz		f_T	3	-	MHz

Fig 1. h_{FE} vs I_C

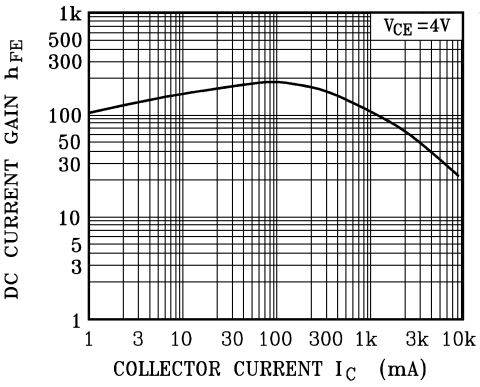


Fig 2. V_{CE} V_{BE} vs I_C

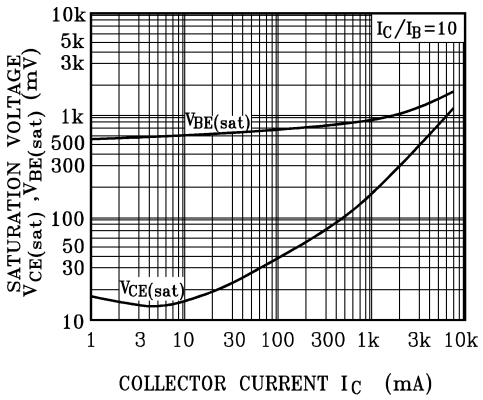


Fig 3.P_C vs Ta

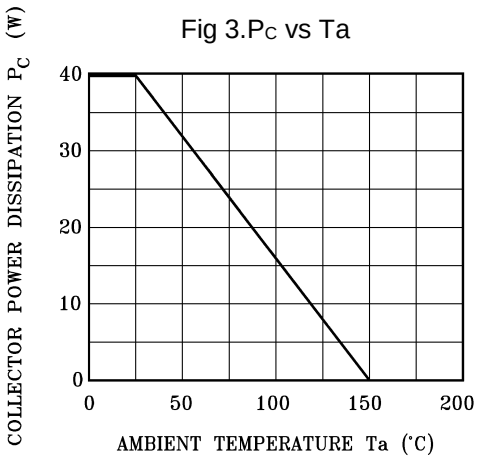
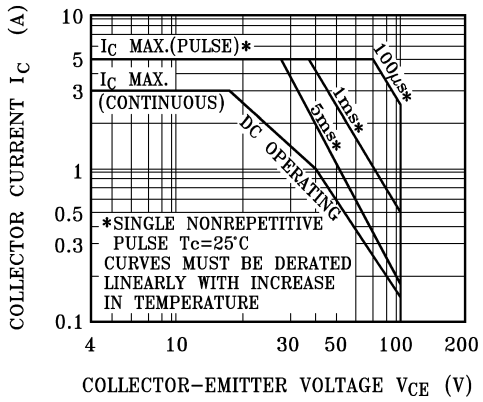
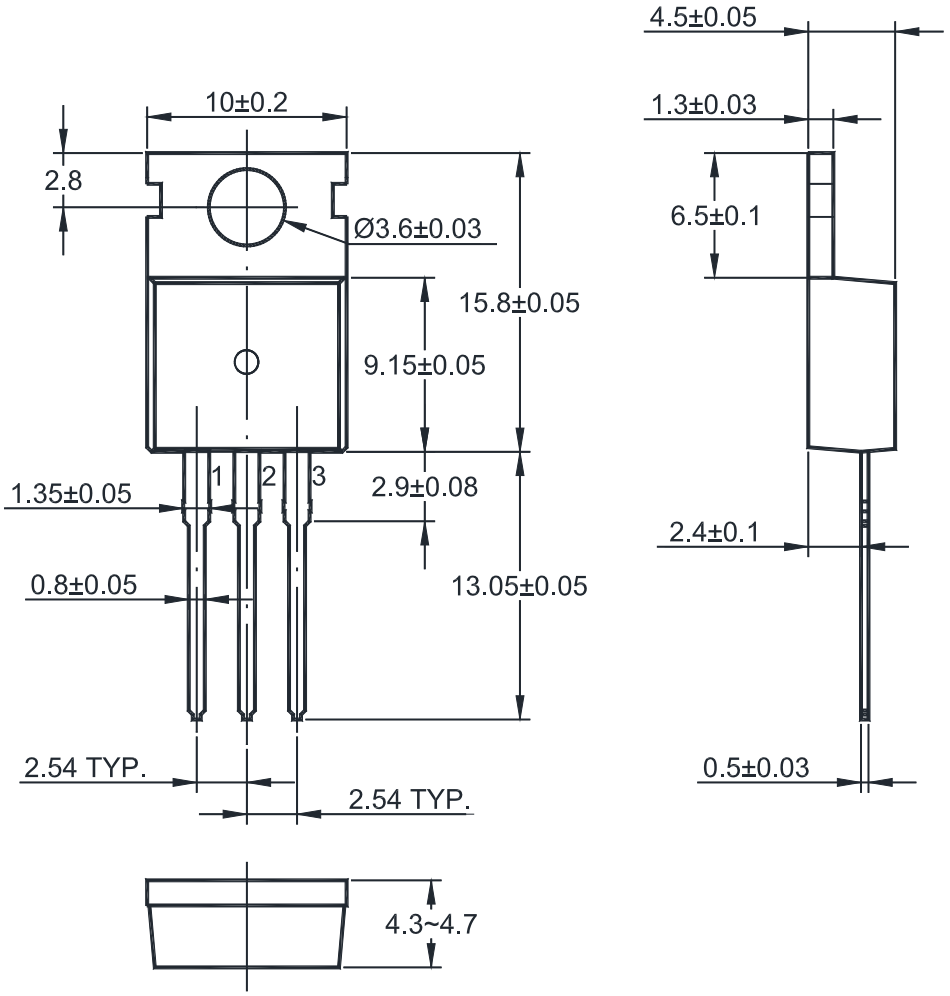


Fig 4.I_C vs V_{CE}



Package Outline Dimensions (Units: mm) **TO-220FB**



Marking information

" TIP31*C " = Part No. (" * " = HFE grouping Code)
" ****** " = Date Code Marking
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