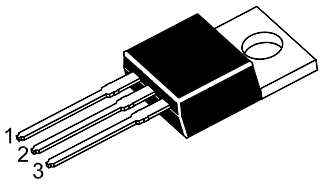
ST TIP122

NPN Silicon Power Darlington Transistor

for power switching and amplifier applications



1.Base 2.Collector 3.Emitter

TO-220 Plastic Package

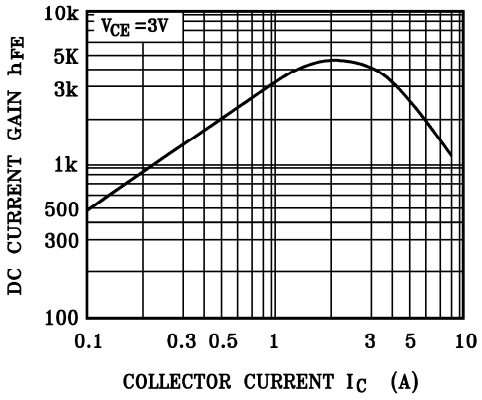
Absolute Maximum Ratings (T_a = 25 °C)

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	5	A
Collector Current (Pulse)	I_{CP}	8	A
Base Current	I_B	0.12	A
Power Dissipation (T_a = 25 °C)	P_C	2	W
Power Dissipation (T_c = 25 °C)	P_C	65	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°C

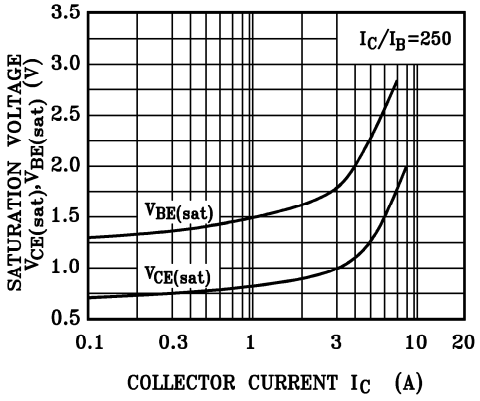
Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at V_{CE} = 3 V, I_C = 0.5 A at V_{CE} = 3 V, I_C = 3 A	 h_{FE} h_{FE}	 1000 1000	 - -	 - -
Collector Base Cutoff Current at V_{CB} = 100 V	I_{CBO}	-	0.2	mA
Collector Emitter Cutoff Current at V_{CE} = 50 V	I_{CEO}	-	0.5	mA
Emitter Base Cutoff Current at V_{EB} = 5 V	I_{EBO}	-	2	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 = 12 mA	$V_{CE(sat)}$	-	2	V
Collector Emitter Saturation Voltage at I_C = 5 A, I_B = 20 mA	$V_{CE(sat)}$	-	4	V
Base Emitter On Voltage at V_{CE} = 3 V, I_C = 3 A	$V_{BE(on)}$	-	2.5	V

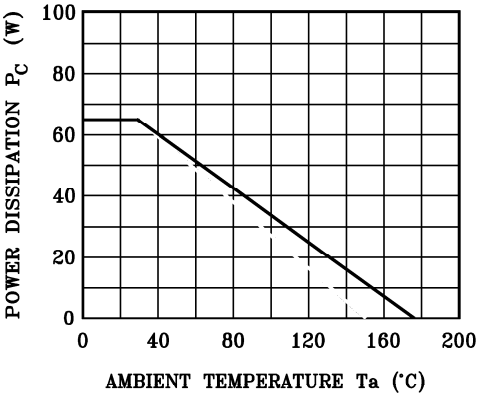
h_{FE} – I_C



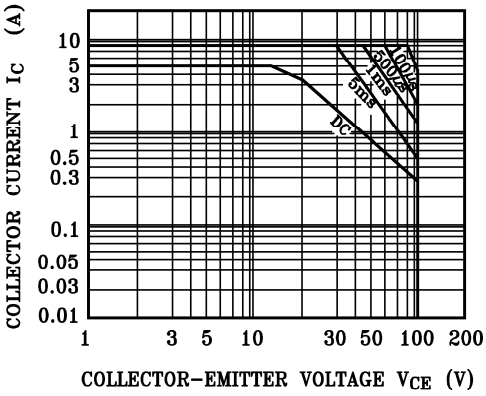
$V_{CE(sat)}$, $V_{BE(sat)}$ – I_C



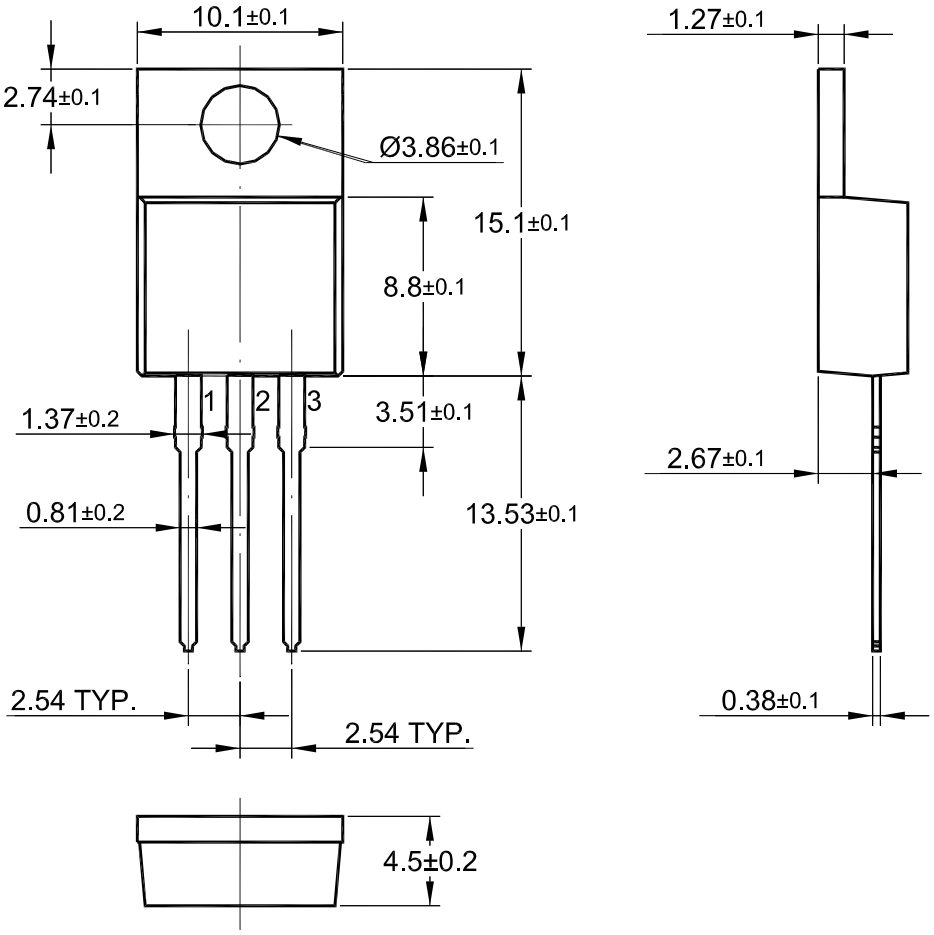
P_C – Ta



SAFE OPERATING AREA



TO-220 PACKAGE OUTLINE



Dimensions in mm