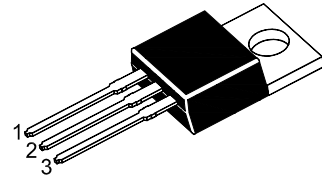


13005

NPN Silicon Power Transistors

for high-voltage, high-speed power switching applications.



1.Base 2.Collector 3.Emitter
TO-220 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

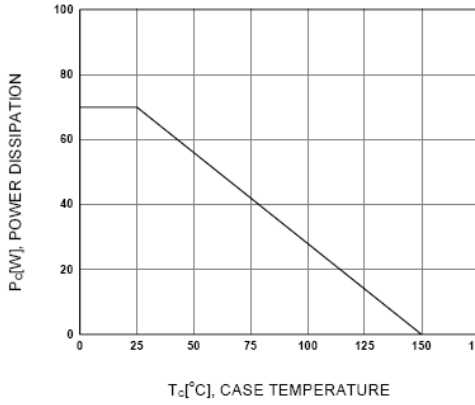
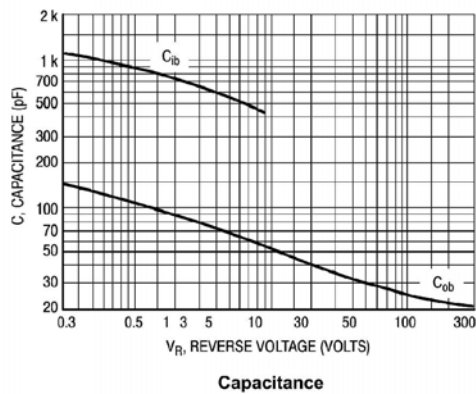
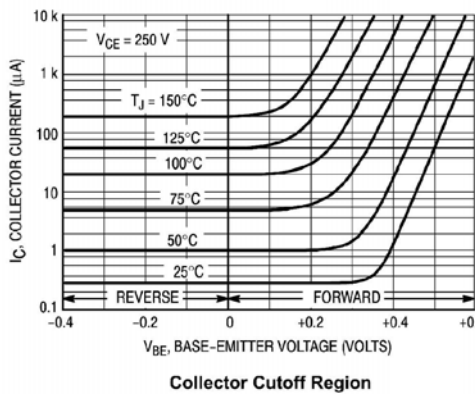
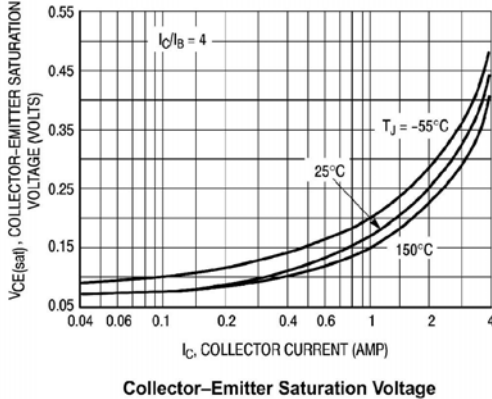
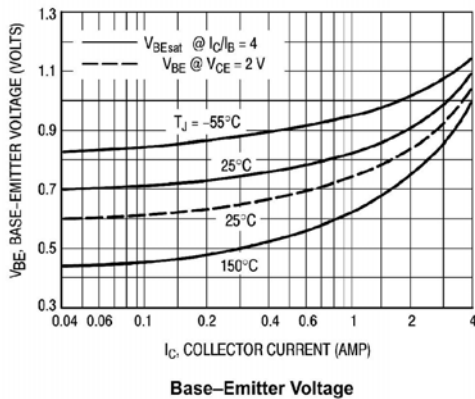
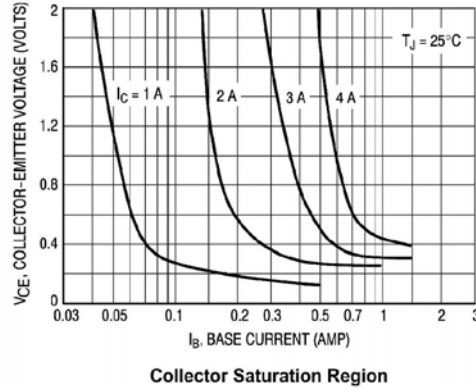
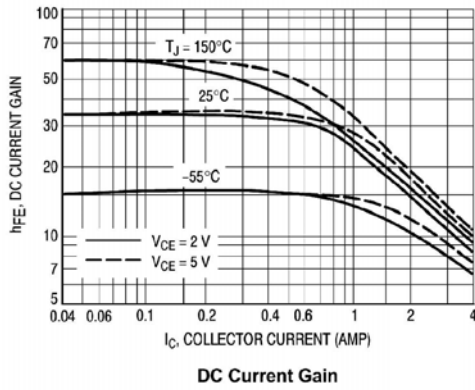
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	700	V
Collector Emitter Voltage	V_{CEO}	400	V
Emitter Base Voltage	V_{EBO}	9	V
Collector Current	I_C	4	A
Power Dissipation ($T_a = 25\text{ }^\circ\text{C}$)	P_{tot}	2	W
Power Dissipation ($T_c = 25\text{ }^\circ\text{C}$)	P_{tot}	75	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ A}$ at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ A}$	h_{FE} h_{FE}	10 8	- -	60 40	- -
Collector Base Cutoff Current at $V_{CB} = 700\text{ V}$	I_{CBO}	-	-	1	mA
Emitter Base Cutoff Current at $V_{EB} = 9\text{ V}$	I_{EBO}	-	-	1	mA
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	400	-	-	V
Collector Emitter Saturation Voltage at $I_C = 1\text{ A}$, $I_B = 0.2\text{ A}$ at $I_C = 2\text{ A}$, $I_B = 0.5\text{ A}$ at $I_C = 4\text{ A}$, $I_B = 1\text{ A}$	$V_{CE(sat)}$ $V_{CE(sat)}$ $V_{CE(sat)}$	- - -	- - -	0.5 0.6 1	V V V
Base Emitter Saturation Voltage at $I_C = 1\text{ A}$, $I_B = 0.2\text{ A}$ at $I_C = 2\text{ A}$, $I_B = 0.5\text{ A}$	$V_{BE(sat)}$ $V_{BE(sat)}$	- -	- -	1.2 1.6	V V
Gain Bandwidth Product at $V_{CE} = 10\text{ V}$, $I_C = 500\text{ mA}$, $f = 1\text{ MHz}$	f_T	4	-	-	MHz
Collector Base Capacitance at $V_{CB} = 10\text{ V}$, $f = 0.1\text{ MHz}$	C_{ob}	-	65	-	pF

TOP DYNAMIC

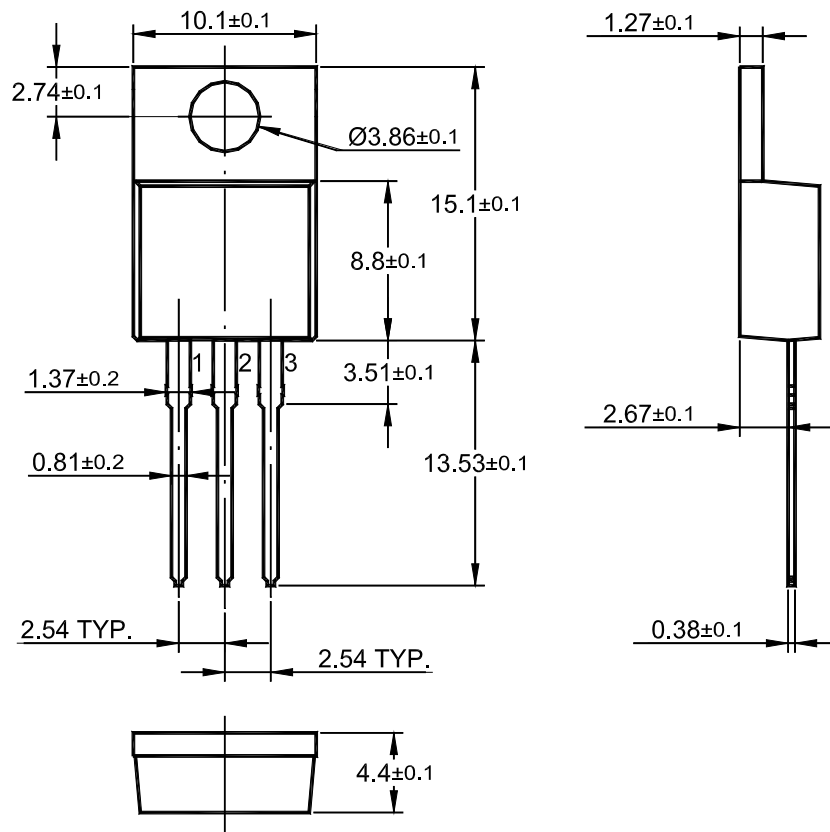




TOP DYNAMIC



TO-220 PACKAGE OUTLINE



Dimensions in mm