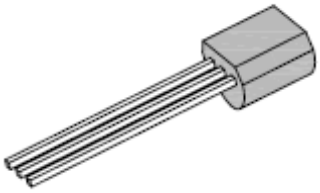
Small Signal General Purpose Transistors (NPN)

Features

- NPN Silicon Epitaxial Transistor for Switching and Amplifier Applications
- RoHS Compliance



TO-92

Mechanical Data

Case:	TO-92, Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	0.18 gram

Maximum Ratings *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	BC548A	BC548B	BC548C	Unit
V_{CEO}	Collector-Emitter Voltage	30			V
V_{CBO}	Collector-Base Voltage	30			V
V_{EBO}	Emitter-Base Voltage	5			V
I_C	Collector Current	100			mA
I_B	Base Current	20			mA
I_E	Emitter Current	-100			mA
P_C	Collector Power Dissipation	625			mW
T_J ,T_{STG}	Operation and Storage Junction Temperature Range	-55 to +150			° C

Electrical Characteristics *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description		Min.	Typ.	Max.	Unit	Conditions
I_{CBO}	Collector Cut–Off Current		-	-	15	nA	V_{CB}=30V, I_E=0
h_{FE}	D.C. Current Gain	BC548A	110	-	220		V_{CE}=5V, I_C=2mA
		BC548B	200	-	450		
		BC548C	420	-	800		
$V_{CE(sat)}$	Collector Emitter Saturation Voltage		-	-	0.6	V	I_C=100mA, I_B=5mA
$V_{BE(sat)}$	Base Emitter Saturation Voltage		-	0.9	1.1	V	I_C=100mA, I_B=5mA
$V_{BE(on)}$	Base Emitter On Voltage		0.58	-	0.7	V	V_{CE}=5V, I_C=2mA
			-	-	0.75	V	V_{CE}=5V, I_C=10mA
f_T	Transition Frequency		-	150	-	MHz	V_{CE}=5V, I_C=10mA, f=100MHz
C_{obo}	Collector Output Capacitance		-	-	4.5	pF	V_{CB}=10V, I_E=0, f=1MHz
NF	Noise Figure		-	1.0	10	dB	V_{CE}=6V, I_C=0.1mA, R_g=10KΩ, f=1KHz

Typical Characteristics Curves

Fig.1- I_C - V_{CE}

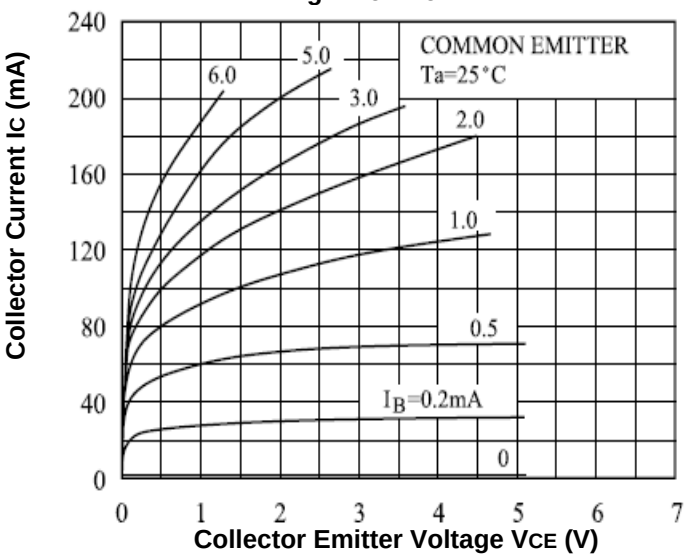


Fig.2- h_{FE} - I_C

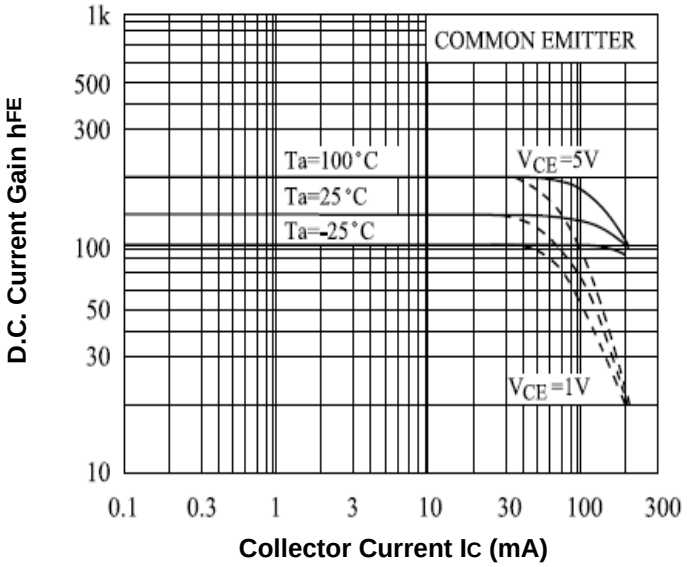


Fig.3- $V_{CE(sat)}$ - I_C

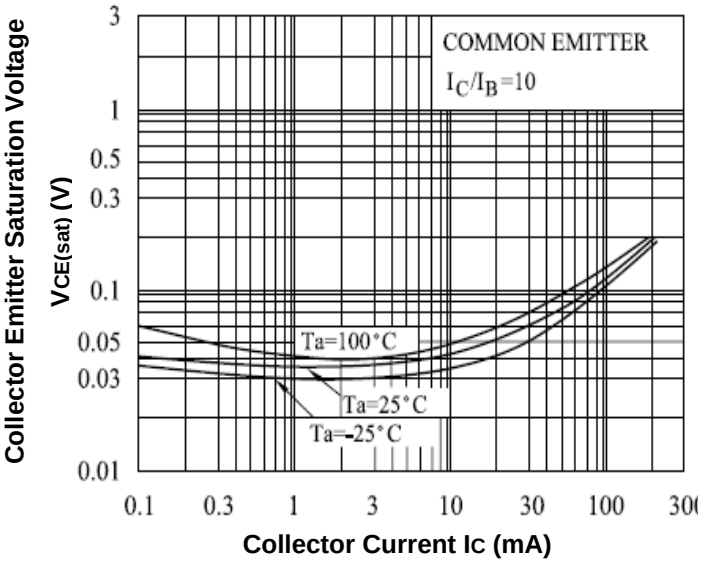


Fig.4- f_T - I_C

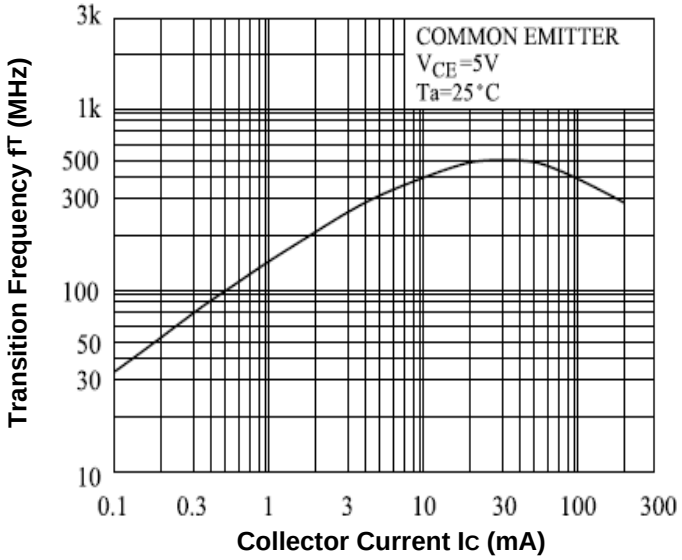


Fig.5- I_B - V_{BE}

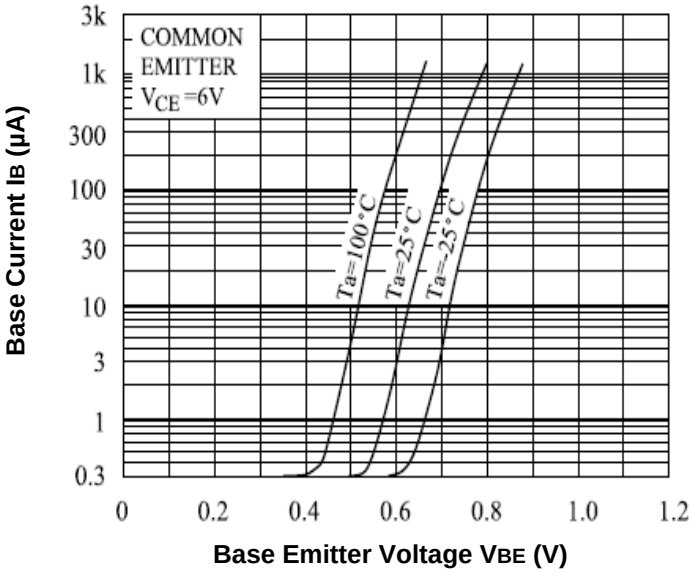
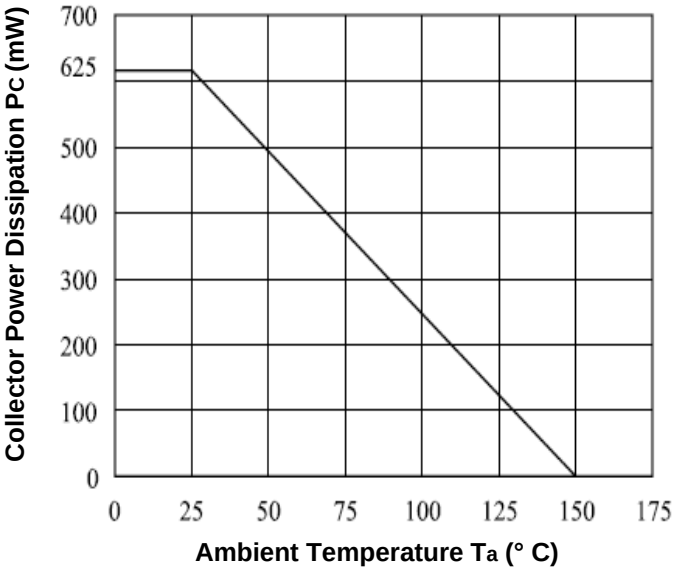
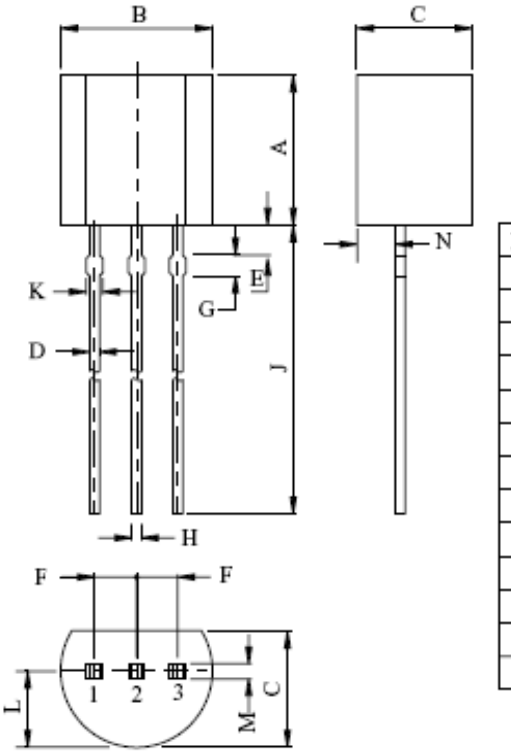


Fig.6- P_C - T_a



Dimensions in mm



DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.45
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00±0.50
K	0.55 MAX
L	2.30
M	0.45 MAX
N	1.00

1. COLLECTOR
2. BASE
3. EMITTER

TO-92

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