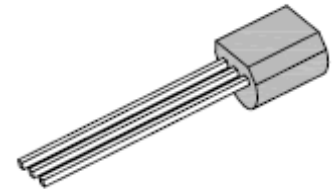


Small Signal General Purpose Transistors (NPN)

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 ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	BC547A	BC547B	BC547C	Unit
V_{CEO}	Collector-Emitter Voltage	45			V
V_{CBO}	Collector-Base Voltage	50			V
V_{EBO}	Emitter-Base Voltage	6			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

Small Signal General Purpose Transistors (NPN)

BC547A/B/C

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
ICBO	Collector Cut-Off Current	-	-	15	nA	$V_{CB}=30V, I_E=0$
hFE	D.C. Current Gain	BC547A	110	-	220	$V_{CE}=5V, I_C=2mA$
		BC547B	200	-	450	
		BC547C	420	-	800	
VCE(sat)	Collector Emitter Saturation Voltage	-	-	0.6	V	$I_C=100mA, I_B=5mA$
VBE(sat)	Base Emitter Saturation Voltage	-	0.9	1.1	V	$I_C=100mA, I_B=5mA$
VBE(on)	Base Emitter On Voltage	0.58	-	0.7	V	$V_{CE}=5V, I_C=2mA$
		-	-	0.75	V	$V_{CE}=5V, I_C=10mA$
fT	Transition Frequency	-	150	-	MHz	$V_{CE}=5V, I_C=10mA, f=100MHz$
Cobo	Collector Output Capacitance	-	-	4.5	pF	$V_{CB}=10V, I_E=0, f=1MHz$
NF	Noise Figure	-	1.0	10	dB	$V_{CE}=6V, I_C=0.1mA, R_g=10K\Omega, f=1KHz$

Typical Characteristics Curves

Fig.1- I_C - V_{CE}

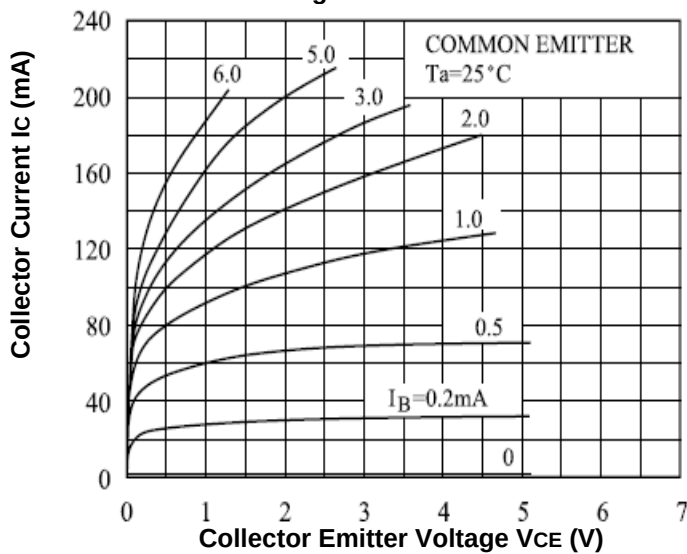
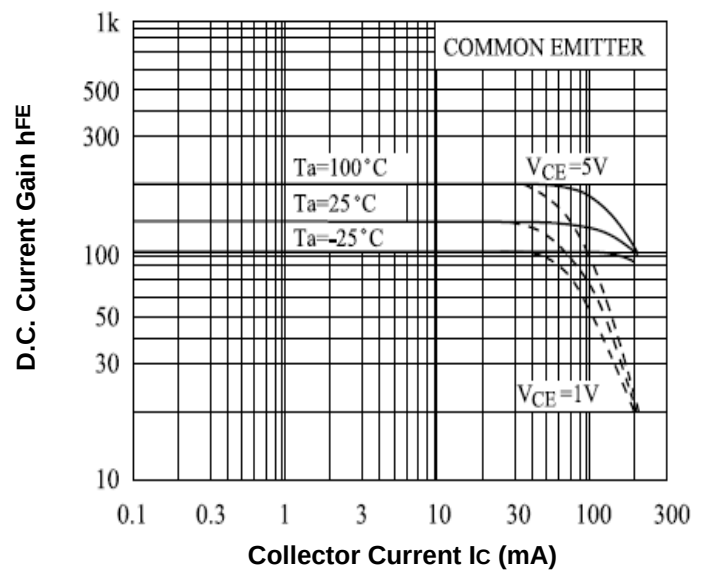


Fig.2- h_{FE} - I_C



Small Signal General Purpose Transistors (NPN)

BC547A/B/C

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

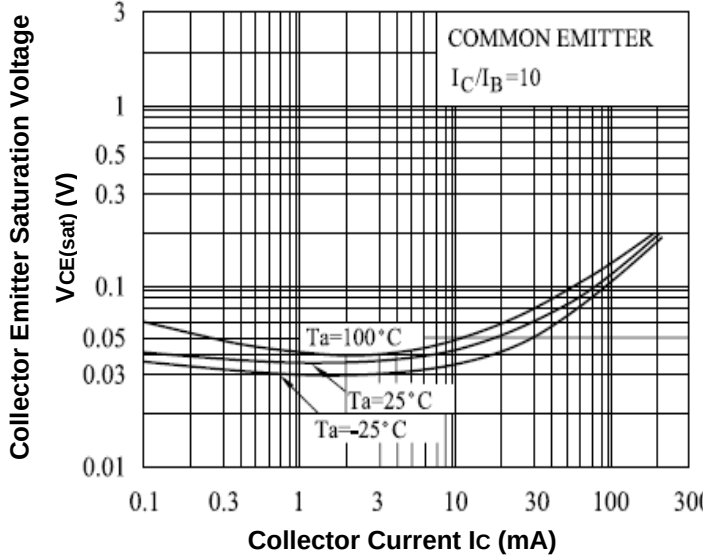


Fig.4- f_T - I_C

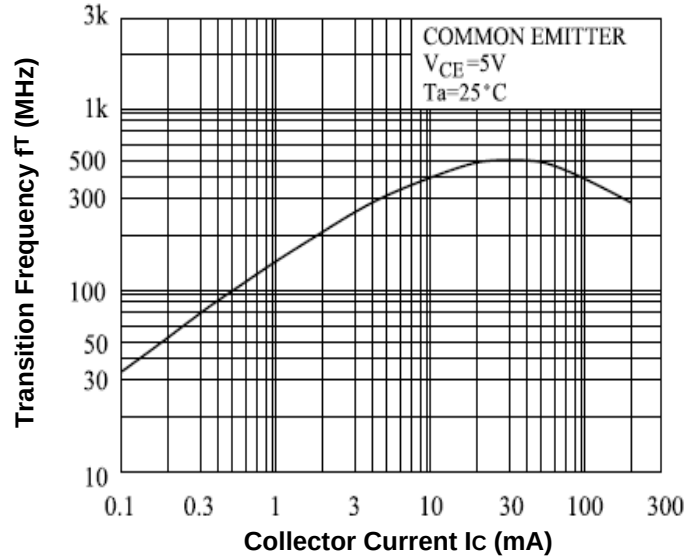


Fig.5- I_B - V_{BE}

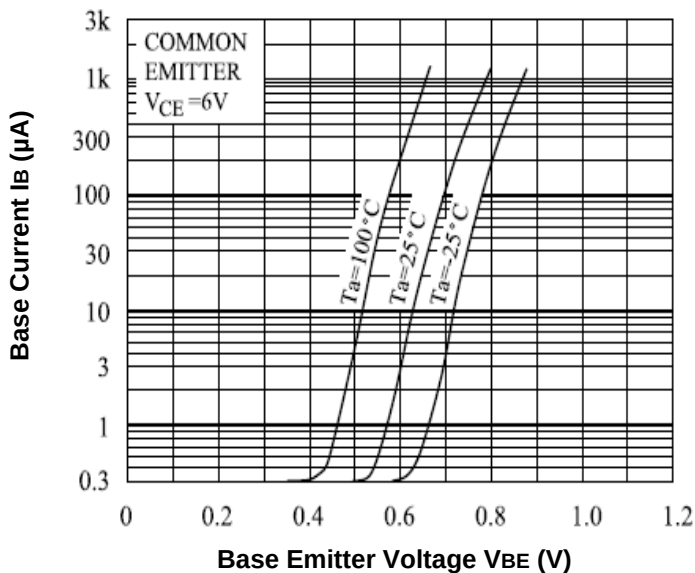
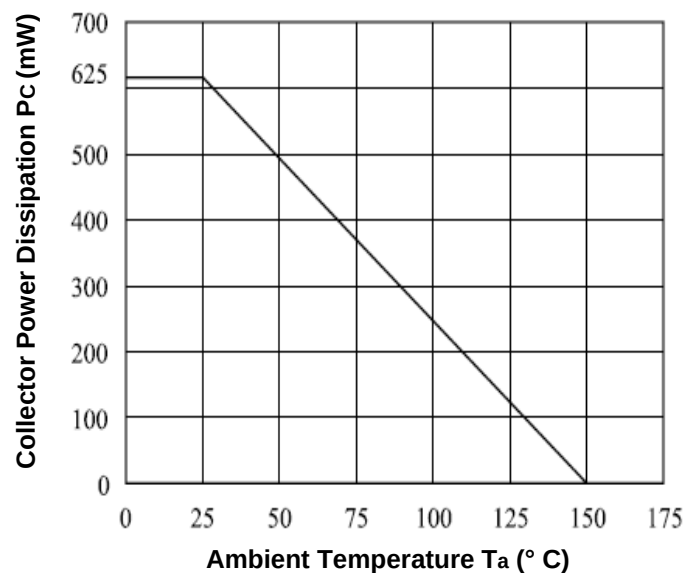


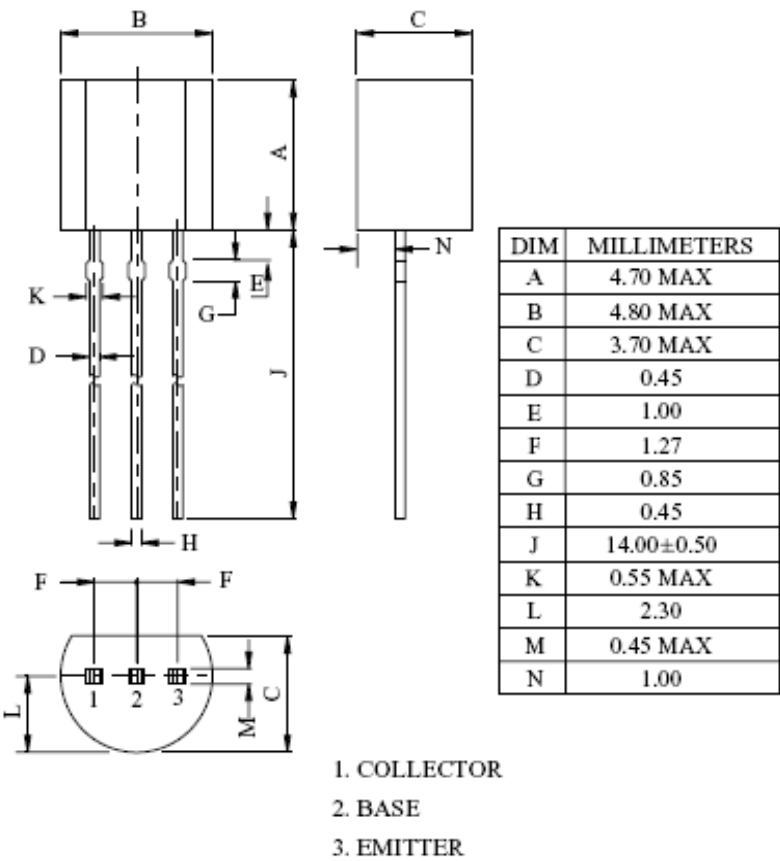
Fig.6- P_C - T_a



Small Signal General Purpose Transistors (NPN)

BC547A/B/C

Dimensions in mm



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Small Signal General Purpose Transistors (NPN)

BC547A/B/C

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