BC546/547/548

Description of TO-92 NPN Amplifier Transistor

- High Voltage: BC546,547,548 V_{CEO}=65V, 45V, 30V
- Power dissipation Pcm: 0.625W(Ta=25C)
- Collector current :Icm:0.1A
- Collector-base voltage:V(BR)CBO:BC546:80V,BC547:50V,BC548:30V
- Operating and storage junction temperature range:Tj, Tstg: -55 ~ 150C

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter		Value	Units
V_{CBO}	Collector-Base Voltage	: BC546	80	V
	Ic=100uA, IE=0	: BC547	50	V
		: BC548	30	V
V_{CEO}	Collector-Emitter Voltage	: BC546	65	V
	Ic=1mA, IB=0	: BC547	45	V
		: BC548	30	V
V_{EBO}	Emitter-Base Voltage	: BC546/547	6	V
	IE=10uA, Ic=0	: BC548	5	V
I_C	Collector Current (DC)		100	mA
P_C	Collector Dissipation		500	mW
T_J	Junction Temperature		150	°C
T_{STG}	Storage Temperature		-55 ~ 150	°C

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	V_{CB}=30V, I_E=0			15	nA
h_{FE}	DC Current Gain	V_{CE}=5V, I_C=2mA	110		800	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=10mA, I_B=0.5mA		90	250	mV
		I_C=100mA, I_B=5mA		200	600	mV
V_{BE} (sat)	Base-Emitter Saturation Voltage	I_C=10mA, I_B=0.5mA		700		mV
		I_C=100mA, I_B=5mA				mV
V_{BE} (on)	Base-Emitter On Voltage	V_{CE}=5V, I_C=2mA	580	660	700	mV
		V_{CE}=5V, I_C=10mA			720	mV
f_T	Current Gain Bandwidth Product	V_{CE}=5V, I_C=10mA, f=100MHz	150	300		MHz
C_{ob}	Output Capacitance	V_{CB}=10V, I_E=0, f=1MHz		3.5	6	pF
C_{ib}	Input Capacitance	V_{EB}=0.5V, I_C=0, f=1MHz		9		pF
NF	Noise Figure : BC546/547/548	V_{CE}=5V, I_C=200μA		2	10	dB
	: BC549/550	f=1KHz, R_G=2KΩ		1.2	4	dB
	: BC549	V_{CE}=5V, I_C=200μA		1.4	4	dB
	: BC550	R_G=2KΩ, f=30~15000MHz		1.4	3	dB

h_{FE} Classification

Classification	A	B	C
h_{FE}	110 ~ 220	200 ~ 450	420 ~ 800

Typical Characteristics

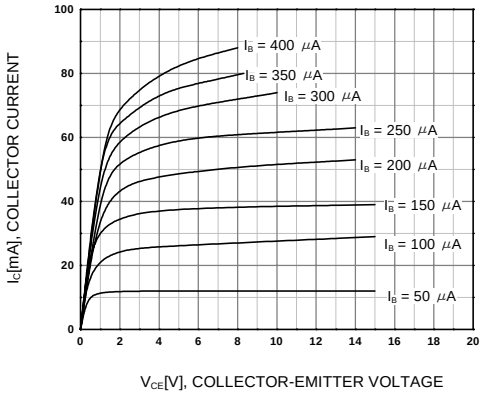

Figure 1. Static Characteristic

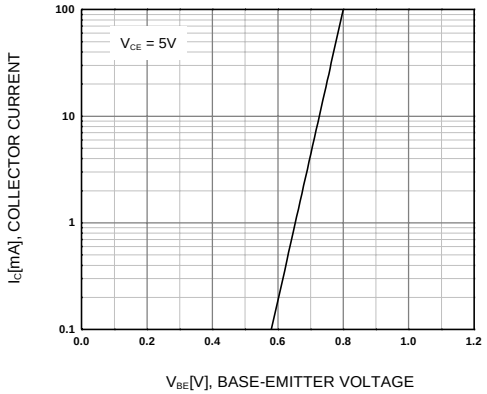

Figure 2. Transfer Characteristic

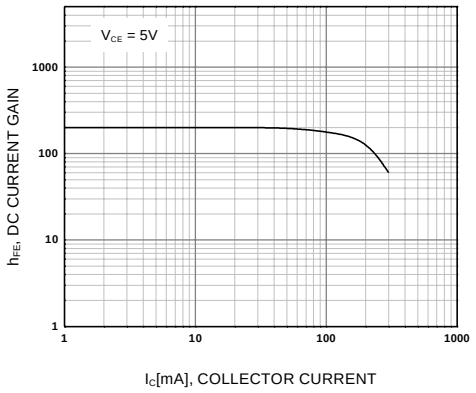

Figure 3. DC current Gain

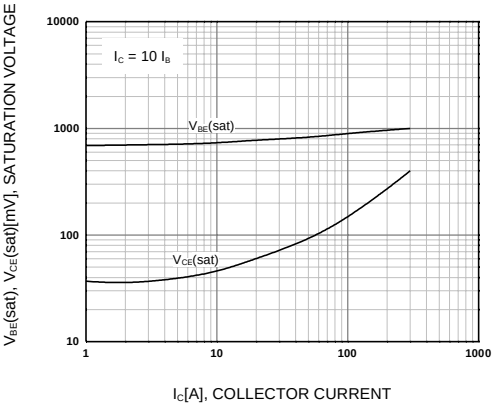

Figure 4. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

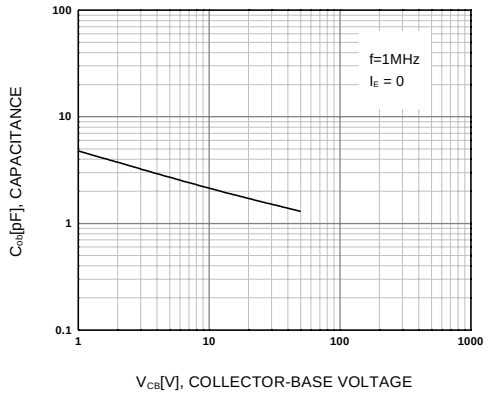

Figure 5. Output Capacitance

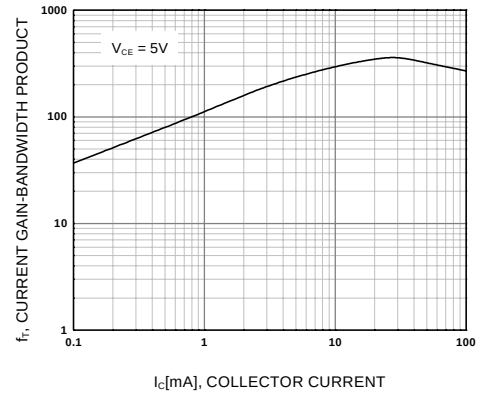

Figure 6. Current Gain Bandwidth Product