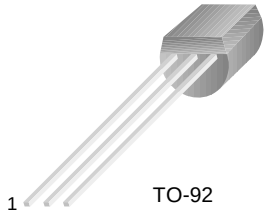
FAIRCHILD
SEMICONDUCTOR®

BC546/547/548/549/550

Switching and Applications

- High Voltage: BC546, V_{CEO}=65V
- Low Noise: BC549, BC550
- Complement to BC556 ... BC560



TO-92

1. Collector 2. Base 3. Emitter

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
	: BC547/550	50	V
	: BC548/549	30	V
V_{CEO}	Collector-Emitter Voltage : BC546	65	V
	: BC547/550	45	V
	: BC548/549	30	V
V_{EBO}	Emitter-Base Voltage : BC546/547	6	V
	: BC548/549/550	5	V
I_C	Collector Current (DC)	100	mA
P_C	Collector Power Dissipation	500	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-65 ~ 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		900		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		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

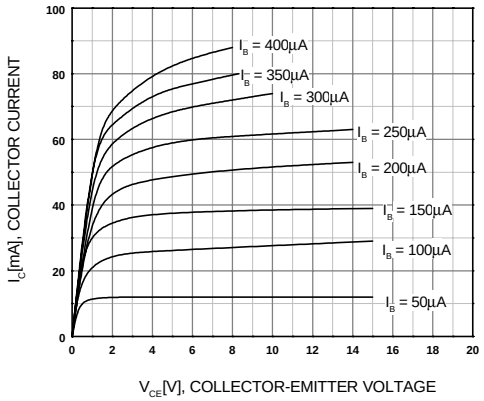


Figure 1. Static Characteristic

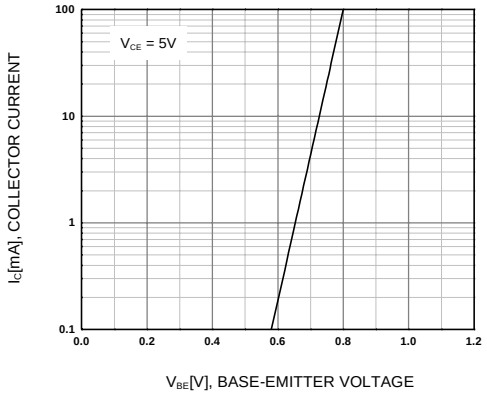


Figure 2. Transfer Characteristic

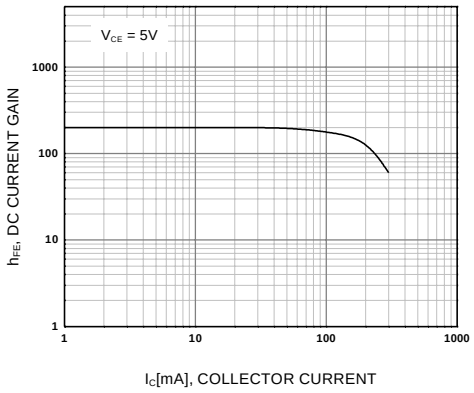


Figure 3. DC current Gain

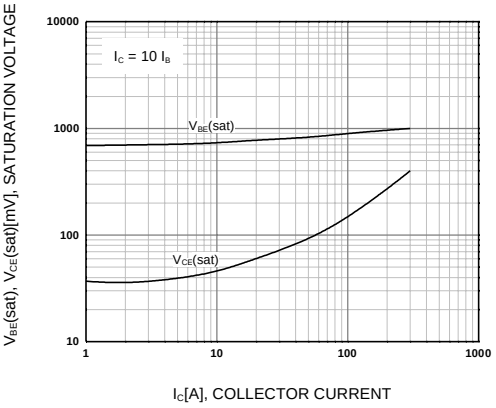


Figure 4. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

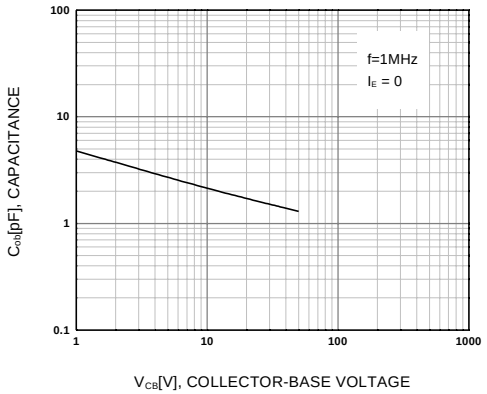


Figure 5. Output Capacitance

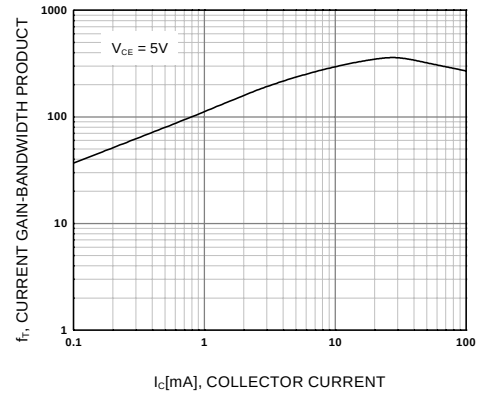
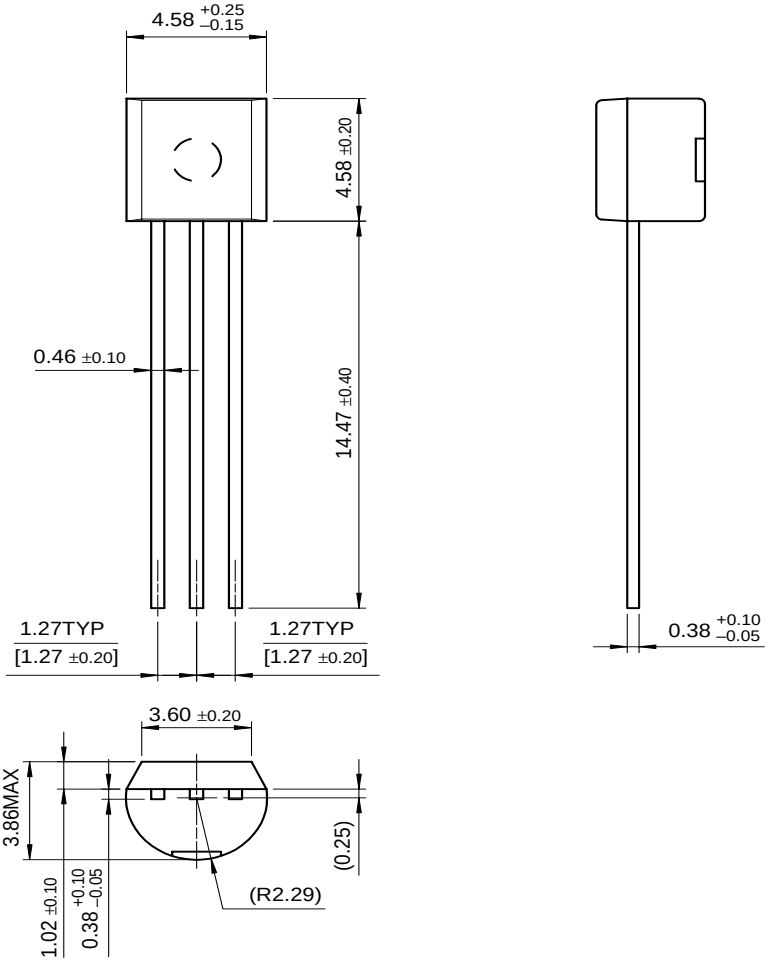


Figure 6. Current Gain Bandwidth Product

Package Dimensions

TO-92



Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

BC547

NPN Epitaxial Silicon Transistor

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Features

- High Voltage V_{CEO}=65V
- Low Noise: BC549,BC550
- Complement to BC556...BC560

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Applications

Switching and Amplifier

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Product status/pricing/packaging

BUY

Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
BC547	Full Production	Full Production	$0.0473	TO-92	3	BULK	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: BC547
BC547A	Full Production	Full Production	$0.0473	TO-92	3	BULK	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: BC Line 3: 547A

BC547ABU	Full Production	Full Production	$0.0238	TO-92	3	BULK	Line 1: BC547 Line 2: A Line 3: -&3
BC547ATA	Full Production	Full Production	$0.0238	TO-92	3	AMMO	Line 1: BC547 Line 2: A Line 3: -&3
BC547ATAR	Full Production	Full Production	$0.0238	TO-92	3	AMMO	Line 1: BC547 Line 2: A Line 3: -&3
BC547B	Full Production	Full Production	$0.0473	TO-92	3	BULK	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: BC Line 3: 547B
BC547BBU	Full Production	Full Production	$0.0238	TO-92	3	BULK	Line 1: BC547 Line 2: B Line 3: -&3
BC547BNMBU	Full Production	Full Production	$0.0238	TO-92	3	BULK	Line 1: NO MARK
BC547BTA	Full Production	Full Production	$0.0238	TO-92	3	AMMO	Line 1: BC547 Line 2: B Line 3: -&3
BC547BTAR	Full Production	Full Production	$0.0238	TO-92	3	AMMO	Line 1: BC547 Line 2: B Line 3: -&3
BC547BTF	Full Production	Full Production	$0.0238	TO-92	3	TAPE REEL	Line 1: BC547 Line 2: B Line 3: -&3
BC547BTFR	Full Production	Full Production	$0.0238	TO-92	3	TAPE REEL	Line 1: BC547 Line 2: B Line 3: -&3
BC547BU	Full Production	Full Production	$0.0238	TO-92	3	BULK	Line 1: BC547 Line 3: -&3

BC547B_L34Z	Lifetime Buy		N/A	TO-92	3	BULK	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: BC Line 3: 547B
BC547C	Full Production	Full Production	$0.0473	TO-92	3	BULK	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: BC Line 3: 547C
BC547CBU	Full Production	Full Production	$0.0238	TO-92	3	BULK	Line 1: BC547 Line 2: C Line 3: -&3
BC547CNMBU	Full Production	Full Production	$0.0238	TO-92	3	BULK	N/A
BC547CTA	Full Production	Full Production	$0.0238	TO-92	3	AMMO	Line 1: BC547 Line 2: C Line 3: -&3
BC547CTAR	Full Production	Full Production	$0.0238	TO-92	3	AMMO	Line 1: BC547 Line 2: C Line 3: -&3
BC547CTF	Full Production	Full Production	$0.0238	TO-92	3	TAPE REEL	Line 1: BC547 Line 2: C Line 3: -&3
BC547CTFR	Full Production	Full Production	$0.0238	TO-92	3	TAPE REEL	Line 1: BC547 Line 2: C Line 3: -&3
BC547TA	Full Production	Full Production	$0.0238	TO-92	3	AMMO	Line 1: BC547 Line 3: -&3
BC547TAR	Full Production	Full Production	$0.0238	TO-92	3	AMMO	Line 1: BC547 Line 3: -&3
BC547TF	Full Production	Full Production	$0.0238	TO-92	3	TAPE REEL	Line 1: BC547 Line 3: -&3

BC547TFR	Full Production	Full Production	$0.0238	TO-92	3	TAPE REEL	Line 1: BC547 Line 3: -&3
BC547_J22Z	Full Production	Full Production	N/A	TO-92	3	BULK	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: BC547
BC547_J61Z	Full Production	Full Production	N/A	TO-92	3	BULK	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: BC547

* Fairchild 1,000 piece Budgetary Pricing
** A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a Fairchild distributor to obtain samples

Indicates product with Pb-free second-level interconnect. For more information click here.

Package marking information for product BC547 is available. Click here for more information .

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Qualification Support

Click on a product for detailed qualification data

Product
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BC547BTAR
BC547BTF
BC547BTFR
BC547BU

BC547B_L34Z
BC547C
BC547CBU
BC547CNMBU
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