

BC546/547/548/549/550

Switching and Applications

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



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

$\textbf{Electrical Characteristics} \ \, \textbf{T}_{a} = 25 ^{\circ} \textbf{C} \ \, \textbf{unless otherwise noted}$

Symbol	Parameter	Test Condition	Min.	Тур.	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 I _C =100mA, I _B =5mA		90 200	250 600	mV mV
V _{BE} (sat)	Base-Emitter Saturation Voltage	I _C =10mA, I _B =0.5mA I _C =100mA, I _B =5mA		700 900		mV mV
V _{BE} (on)	Base-Emitter On Voltage	V_{CE} =5V, I_{C} =2mA V_{CE} =5V, I_{C} =10mA	580	660	700 720	mV 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	$f=1KHz$, $R_G=2K\Omega$		1.2	4	dB
	: BC549	V_{CE} =5V, I_{C} =200 μ A		1.4	4	dB
	: BC550	$R_G=2K\Omega$, $f=30\sim15000MHz$		1.4	3	dB

h_{FE} Classification

Classification	A	В	С
h _{FE}	110 ~ 220	200 ~ 450	420 ~ 800

Typical Characteristics

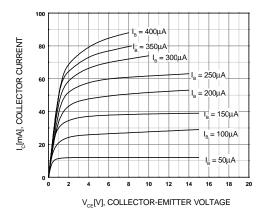


Figure 1. Static Characteristic

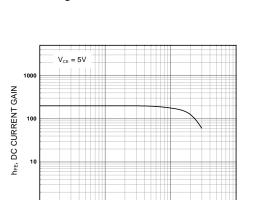


Figure 3. DC current Gain

I_c[mA], COLLECTOR CURRENT

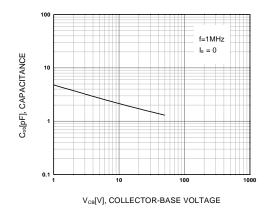


Figure 5. Output Capacitance

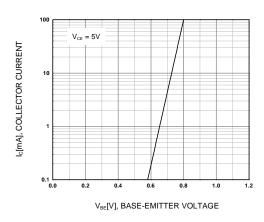


Figure 2. Transfer Characteristic

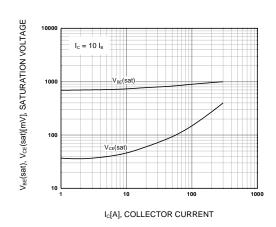


Figure 4. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

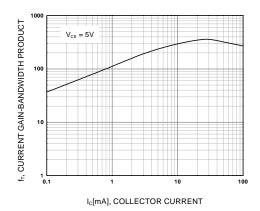
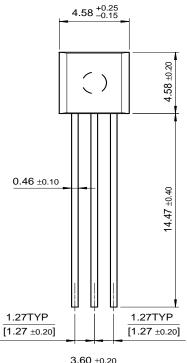


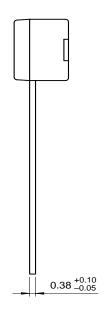
Figure 6. Current Gain Bandwidth Product

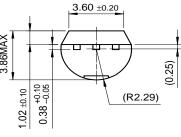
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Package Dimensions

TO-92







Dimensions in Millimeters

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EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C^{TM}	OCX^{TM}	RapidConfigure™	UHC™
Across the board.	Around the world.™	OCXPro™	RapidConnect™	UltraFET [®]
The Power Franci	hise™	OPTOLOGIC [®]	SILENT SWITCHER®	VCX TM
Programmable Ad	ctive Droop™	OPTOPLANAR™	SMART START™	

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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.
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BC548

NPN Epitaxial Silicon Transistor

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• Complement to BC556...BC560

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Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
BC548	Full Production	Full Production	\$0.0473	<u>TO-92</u>	3	BULK	Line 1: \$Y (Fairchild logo) & Z (Asm. Plant Code) & 3 (3-Digit Date Code) Line 2: BC548
BC548A	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: 548A

BC548ABU	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	BULK	<u>Line 1:</u> BC548 <u>Line 2:</u> A <u>Line 3:</u> -&3
BC548ATA	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	AMMO	Line 1: BC548 Line 2: A Line 3: -&3
BC548ATF	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	TAPE REEL	Line 1: BC548 Line 2: A Line 3: -&3
BC548ATFR	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	TAPE REEL	Line 1: BC548 Line 2: A Line 3: -&3
BC548B	Full Production	Full Production	\$0.0473	<u>TO-92</u>	3	BULK	Line 1: \$Y (Fairchild logo) & Z (Asm. Plant Code) & 3 (3-Digit Date Code) Line 2: BC Line 3: 548B
BC548BBU	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	BULK	Line 1: BC548 Line 2: B Line 3: -&3
BC548BTA	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	AMMO	Line 1: BC548 Line 2: B Line 3: -&3
BC548BTAR	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	AMMO	Line 1: BC548 Line 2: B Line 3: -&3
BC548BTF	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	TAPE REEL	Line 1: BC548 Line 2: B Line 3: -&3
BC548BTFR	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	TAPE REEL	Line 1: BC548 Line 2: B Line 3: -&3
BC548BU	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	BULK	Line 1: BC548 Line 3: -&3

BC548C	Full Production	Full Production	\$0.0473	<u>TO-92</u>	3	BULK	Line 1: \$Y (Fairchild logo) &Z (Asm. Plant Code) &3 (3-Digit Date Code) Line 2: BC Line 3: 548C
BC548CBU	Full Production	Full Production	\$0.0238	TO-92	3	BULK	Line 1: BC548 Line 2: C Line 3: -&3
BC548CTA	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	АММО	Line 1: BC548 Line 2: C Line 3: -&3
BC548CTAR	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	АММО	Line 1: BC548 Line 2: C Line 3: -&3
BC548CTF	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	TAPE REEL	Line 1: BC548 Line 2: C Line 3: -&3
BC548CTFR	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	TAPE REEL	Line 1: BC548 Line 2: C Line 3: -&3
BC548TA	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	АММО	<u>Line 1:</u> BC548 <u>Line 3:</u> -&3
BC548TAR	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	АММО	<u>Line 1:</u> BC548 <u>Line 3:</u> -&3
BC548TF	Full Production	Full Production	\$0.0238	<u>TO-92</u>	3	TAPE REEL	<u>Line 1:</u> BC548 <u>Line 3:</u> -&3
BC548TFR	Full Production	Full Production	\$0.0238	TO-92	3	TAPE REEL	Line 1: BC548 Line 3: -&3
BC548_D81Z	Full Production	Full Production	N/A	TO-92	3	TAPE REEL	Line 1: \$Y (Fairchild logo) & Z (Asm. Plant Code) & 3 (3-Digit Date Code) Line 2: BC548

- * 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 BC548 is available. Click here for more information.

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Models

Package & leads	Condition	Temperature range	Software version	Revision date
		PSPICE		
TO-92-3	<u>Electrical</u>	25°C	N/A	N/A

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Qualification Support

Click on a product for detailed qualification data

Product
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BC548B
BC548BBU
BC548BTA
BC548BTAR
BC548BTF
BC548BTFR
BC548BU
BC548C
BC548CBU

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