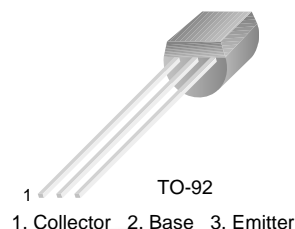


# BC556/557/558/559/560

## PNP Epitaxial Silicon Transistor

### Features

- Switching and Amplifier
- High Voltage: BC556,  $V_{CE0} = -65V$
- Low Noise: BC559, BC560
- Complement to BC546 ... BC 550



### Absolute Maximum Ratings $T_a = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CB0}$	Collector-Base Voltage		
	: BC556	-80	V
	: BC557/560	-50	V
	: BC558/559	-30	V
$V_{CE0}$	Collector-Emitter Voltage		
	: BC556	-65	V
	: BC557/560	-45	V
	: BC558/559	-30	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current (DC)	-100	mA
$P_C$	Collector Power Dissipation	500	mW
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	-65 ~ 150	$^\circ C$

### Electrical Characteristics $T_a = 25^\circ C$ 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	-300	mV	
		$I_C = -100mA, I_B = -5mA$		-250	-650	mV	
$V_{BE(sat)}$	Collector-Base 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	$V_{CE} = -5V, I_C = -2mA$	-600	-660	-750	mV	
		$V_{CE} = -5V, I_C = -10mA$			-800	mV	
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -5V, I_C = -10mA, f = 10MHz$		150		MHz	
$C_{ob}$	Output Capacitance	$V_{CB} = -10V, I_E = 0, f = 1MHz$			6	pF	
NF	Noise Figure	: BC556/557/558		2	10	dB	
		: BC559/560		1	4	dB	
		: BC559	$V_{CE} = -5V, I_C = -200\mu A, f = 1KHz, R_G = 2K\Omega$		1.2	4	dB
		: BC560	$V_{CE} = -5V, I_C = -200\mu A, R_G = 2K\Omega, f = 30 \sim 15000MHz$		1.2	2	dB

### $h_{FE}$ Classification

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

## Typical Performance Characteristics

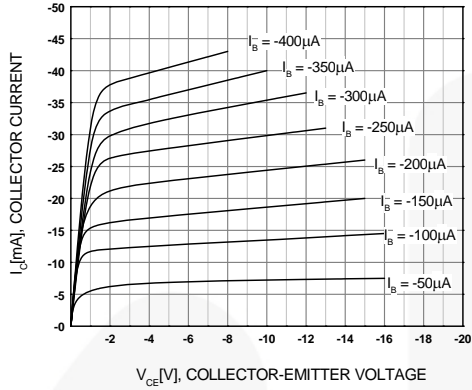


Figure 1. Static Characteristic

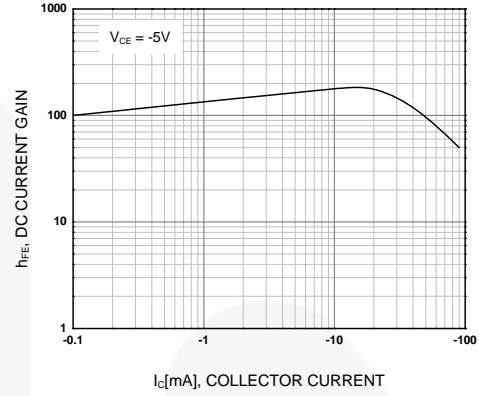


Figure 2. DC current Gain

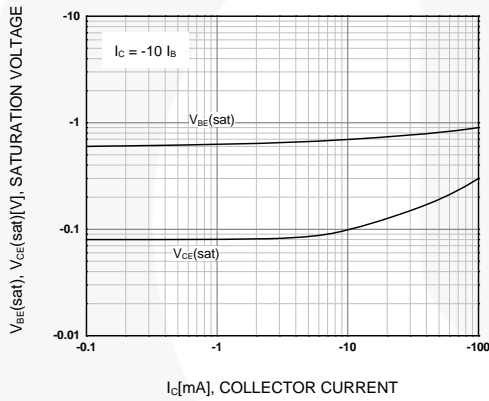


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

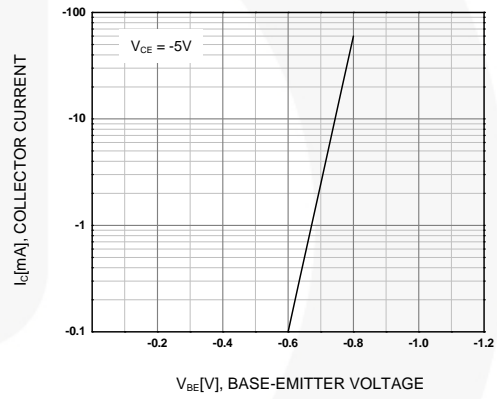


Figure 4. Base-Emitter On Voltage

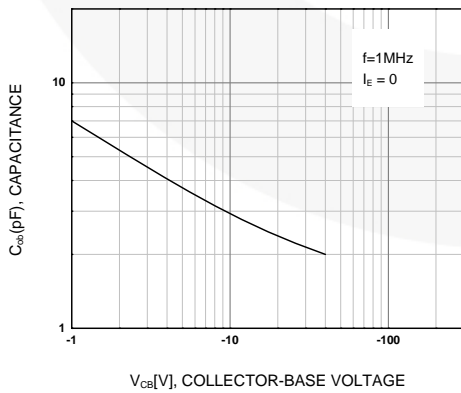


Figure 5. Collector Output Capacitance

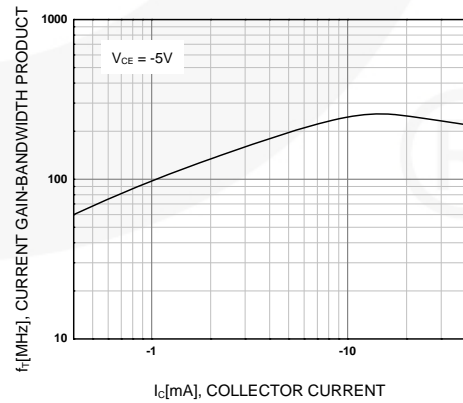
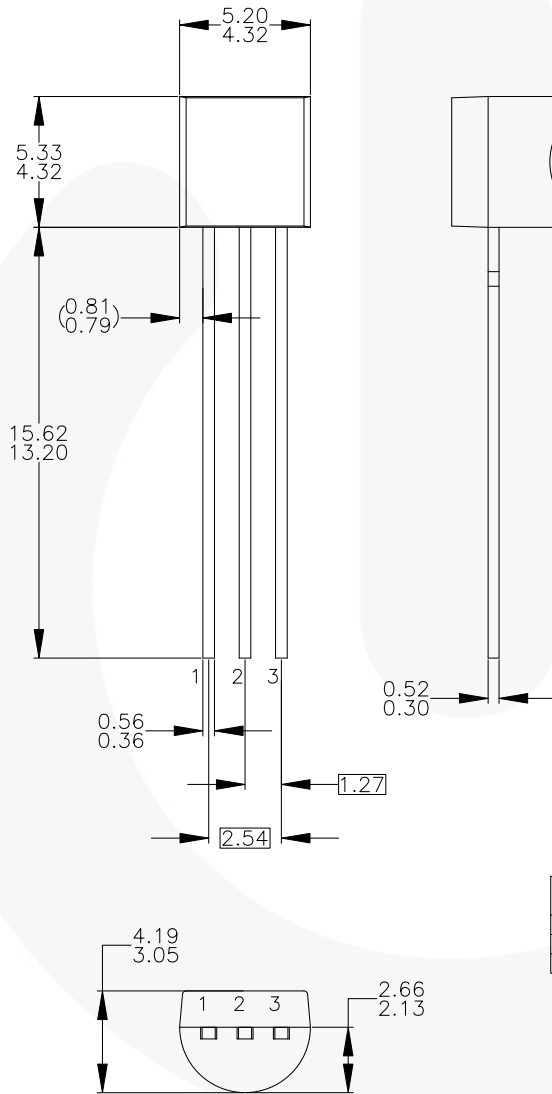


Figure 6. Current Gain Bandwidth Product

Physical Dimensions

TO-92



NOTES: UNLESS OTHERWISE SPECIFIED

- A) DRAWING WITH REFERENCE TO JEDEC TO-92 RECOMMENDATIONS.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DRAWING CONFORMS TO ASME Y14.5M-1994.
- D) TO-92 (92,94,96,97,98) PIN CONFIGURATION:

Pin No.	92	94	96	97	98
1	E	S	S	E	S
2	B	D	G	C	D
3	C	G	D	B	D

LEGEND:

P - BIPOLAR      E - EMITTER      D - DRAIN  
 F - JFET          B - BASE              S - SOURCE  
 M - DMOS        C - COLLECTOR      G - GATE




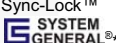
- E) FOR PACKAGE 92, 94, 96, 97 AND 98: PIN CONFIGURATION DRAIN "D" AND SOURCE "S" ARE INTERCHANGEABLE AT JFET "F" OPTION.
- F) DRAWING FILENAME: MKT-ZA03DREV3.

Dimensions in Millimeters



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| BitSiC™   | GreenBridge™                                   | QFET®   | TinyBuck™  |
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| EfficientMax™   | MicroFET™                                      | STEALTH™  | μSerDes™   |
| ESBC™   | MicroPak™                                      | SuperFET®   |  SerDes |
|  | MicroPak2™                                     | SuperSOT™-3   | UHC®   |
| Fairchild®  | MillerDrive™                                   | SuperSOT™-6   | Ultra FRFET™   |
| Fairchild Semiconductor®  | MotionMax™                                     | SuperSOT™-8   | UniFET™  |
| FACT Quiet Series™  | mWSaver™                                       | SupreMOS®   | VCX™   |
| FACT®   | OptoHiT™                                       | SyncFET™  | VisualMax™   |
| FAST®   | OPTOLOGIC®                                     | Sync-Lock™  | VoltagePlus™   |
| FastvCore™  | OPTOPLANAR®                                    |  SYSTEM GENERAL®*                      | XS™  |
| FETBench™   |  |   |  |
| FlashWriter®*   |  |   |  |
| FPS™  |  |   |  |

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Rev. I62