

## BC556/557/558/559/560

### **Switching and Amplifier**

- High Voltage: BC556, V<sub>CEO</sub>= -65V
- Low Noise: BC559, BC560
- Complement to BC546 ... BC 550



1. Collector 2. Base 3. Emitter

## **PNP Epitaxial Silicon Transistor**

### **Absolute Maximum Ratings** T<sub>a</sub>=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage		
020	: BC556	-80	V
	: BC557/560	-50	V
	: BC558/559	-30	V
V <sub>CEO</sub>	Collector-Emitter Voltage		
	: BC556	-65	V
	: BC557/560	-45	V
	: BC558/559	-30	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current (DC)	-100	mA
P <sub>C</sub>	Collector Power Dissipation	500	mW
TJ	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-65 ~ 150	°C

### Electrical Characteristics T<sub>a</sub>=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> = -30V, I <sub>E</sub> =0			-15	nA
h <sub>FE</sub>	DC Current Gain	$V_{CE}$ = -5V, $I_{C}$ =2mA	110		800	
V <sub>CE</sub> (sat)	Collector-Emitter Saturation Voltage	$I_{C}$ = -10mA, $I_{B}$ = -0.5mA $I_{C}$ = -100mA, $I_{B}$ = -5mA		-90 -250	-300 -650	mV mV
V <sub>BE</sub> (sat)	Collector-Base Saturation Voltage	$I_{C}$ = -10mA, $I_{B}$ = -0.5mA $I_{C}$ = -100mA, $I_{B}$ = -5mA		-700 -900		mV mV
V <sub>BE</sub> (on)	Base-Emitter On Voltage	$V_{CE}$ = -5V, $I_{C}$ = -2mA $V_{CE}$ = -5V, $I_{C}$ = -10mA	-600	-660	-750 -800	mV mV
f <sub>T</sub>	Current Gain Bandwidth Product	$V_{CE}$ = -5V, $I_{C}$ = -10mA, f=10MHz		150		MHz
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> = -10V, I <sub>E</sub> =0, f=1MHz			6	pF
NF	Noise Figure : BC556/557/558 : BC559/560 : BC559	$V_{CE}$ = -5V, $I_{C}$ = -200 $\mu$ A f=1KHz, $R_{G}$ =2K $\Omega$ $V_{CE}$ = -5V, $I_{C}$ = -200 $\mu$ A		2 1 1.2	10 4 4	dB dB dB
	: BC560	$R_G=2K\Omega$ , $f=30\sim15000MHz$		1.2	2	dB

## **h**<sub>FE</sub> Classification

Classification	А	В	С
h <sub>FE</sub>	110 ~ 220	200 ~ 450	420 ~ 800

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## **Typical Characteristics**

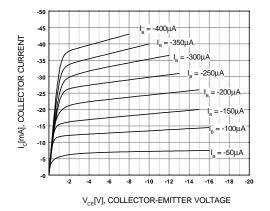


Figure 1. Static Characteristic

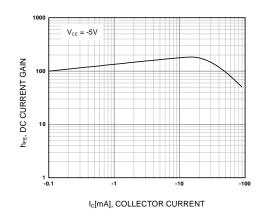


Figure 2. DC current Gain

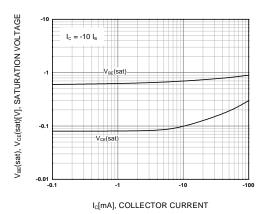


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

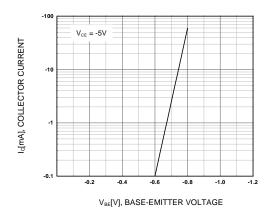


Figure 4. Base-Emitter On Voltage

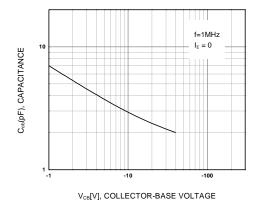


Figure 5. Collector Output Capacitance

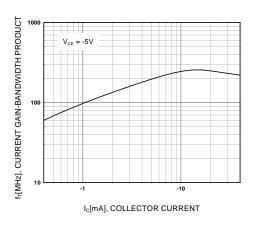
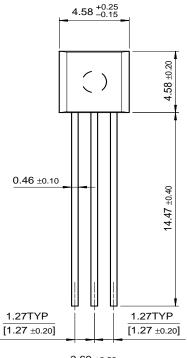


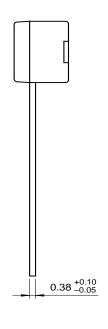
Figure 6. Current Gain Bandwidth Product

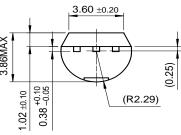
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# **Package Dimensions**

## TO-92







Dimensions in Millimeters

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DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
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EnSigna™	$I^2C^{TM}$	$OCX^{TM}$	RapidConfigure™	UHC™
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