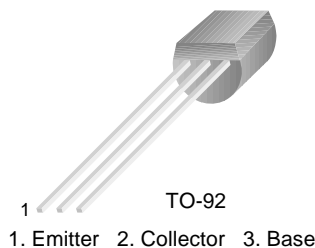


## BC636/638/640

### Switching and Amplifier Applications

- Complement to BC635/637/639



### PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{\text{CER}}$	Collector-Emitter Voltage at $R_{\text{BE}}=1\text{K}\Omega$		
	: BC636	-45	V
	: BC638	-60	V
	: BC640	-100	V
$V_{\text{CES}}$	Collector-Emitter Voltage		
	: BC636	-45	V
	: BC638	-60	V
	: BC640	-100	V
$V_{\text{CEO}}$	Collector-Emitter Voltage		
	: BC636	-45	V
	: BC638	-60	V
	: BC640	-80	V
$V_{\text{EBO}}$	Emitter-Base Voltage	-5	V
$I_{\text{C}}$	Collector Current	-1	A
$I_{\text{CP}}$	Peak Collector Current	-1.5	A
$I_{\text{B}}$	Base Current	-100	mA
$P_{\text{C}}$	Collector Power Dissipation	1	W
$T_{\text{J}}$	Junction Temperature	150	$^\circ\text{C}$
$T_{\text{STG}}$	Storage Temperature	-65 ~ 150	$^\circ\text{C}$

#### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{\text{CEO}}$	Collector-Emitter Breakdown Voltage	$I_{\text{C}}=-10\text{mA}, I_{\text{B}}=0$				
	: BC636		-45			V
	: BC638		-60			V
	: BC640		-80			V
$I_{\text{CBO}}$	Collector Cut-off Current	$V_{\text{CB}}=-30\text{V}, I_{\text{E}}=0$			-0.1	$\mu\text{A}$
$I_{\text{EBO}}$	Emitter Cut-off Current	$V_{\text{EB}}=-5\text{V}, I_{\text{C}}=0$			-0.1	$\mu\text{A}$
$h_{\text{FE1}}$	DC Current Gain	$V_{\text{CE}}=-2\text{V}, I_{\text{C}}=-5\text{mA}$	25			
$h_{\text{FE2}}$			40		250	
			40		160	
$h_{\text{FE3}}$			25			
$V_{\text{CE}}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_{\text{C}}=-500\text{mA}, I_{\text{B}}=-50\text{mA}$			-0.5	V
$V_{\text{BE}}(\text{on})$	Base-Emitter On Voltage	$V_{\text{CE}}=-2\text{V}, I_{\text{C}}=-500\text{mA}$			-1	V
$f_{\text{T}}$	Current Gain Bandwidth Product	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-10\text{mA}, f=50\text{MHz}$		100		MHz

# Typical Characteristics

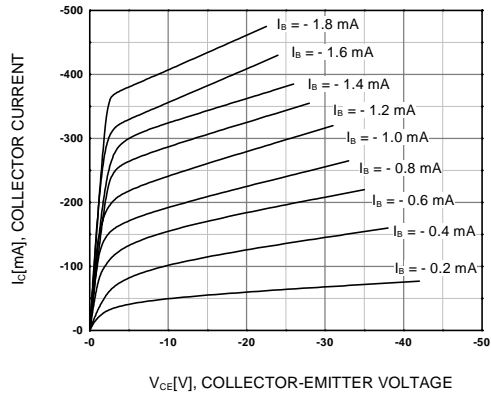


Figure 1. Static Characteristic

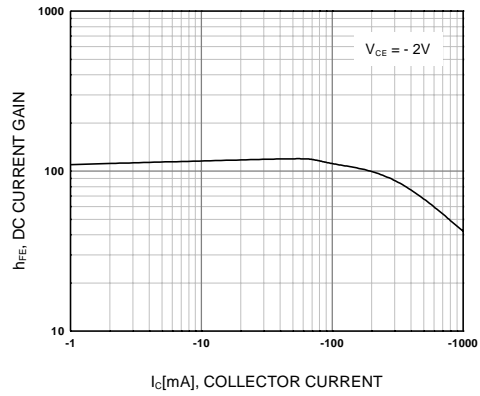


Figure 2. DC current Gain

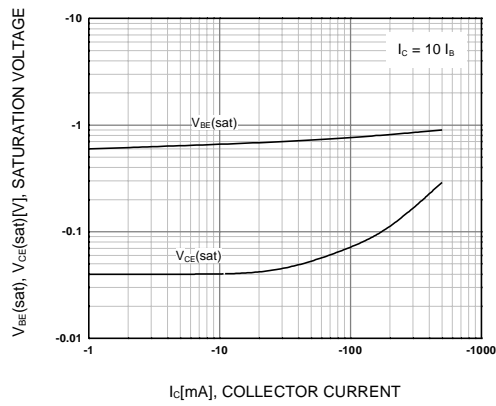


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

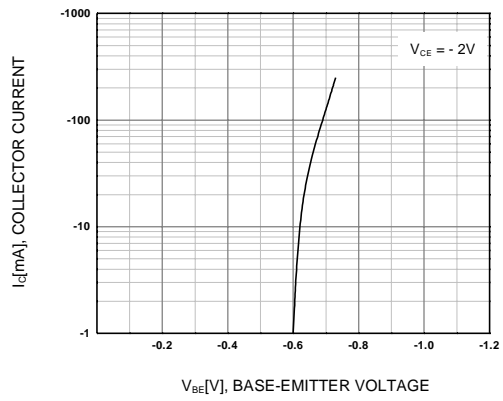


Figure 4. Base-Emitter On Voltage

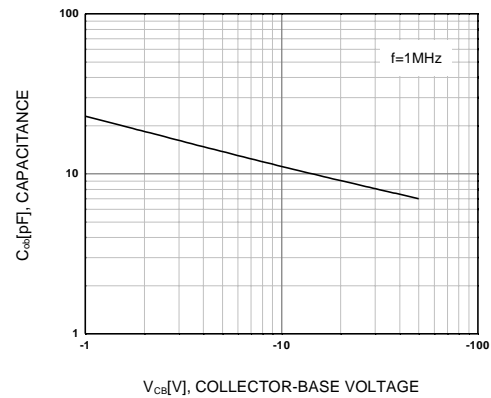
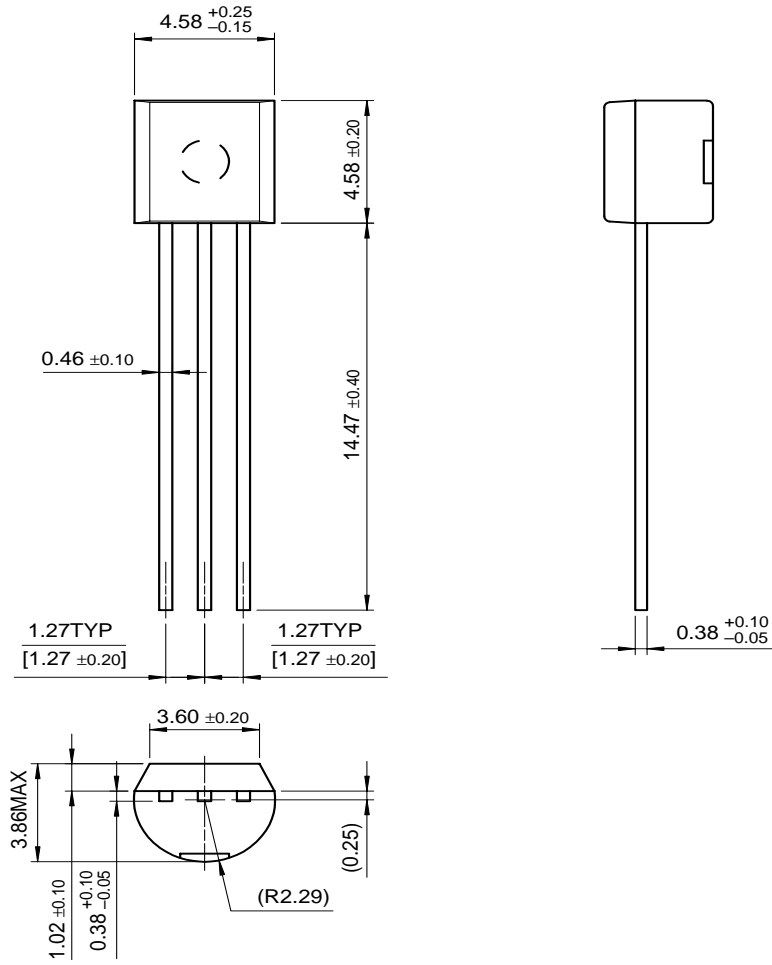


Figure 5. Collector Output Capacitance

# Package Dimensions

BC636/638/640

## TO-92



Dimensions in Millimeters

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