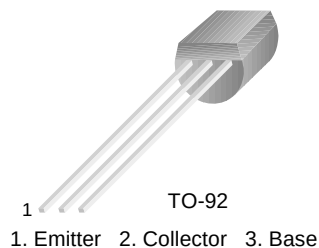


BC636/638/640

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_{CER}	Collector-Emitter Voltage at $R_{\text{BE}}=1\text{K}\Omega$		
	: BC636	-45	V
	: BC638	-60	V
	: BC640	-100	V
V_{CES}	Collector-Emitter Voltage		
	: BC636	-45	V
	: BC638	-60	V
	: BC640	-100	V
V_{CEO}	Collector-Emitter Voltage		
	: BC636	-45	V
	: BC638	-60	V
	: BC640	-80	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_{C}	Collector Current	-1	A
I_{CP}	Peak Collector Current	-1.5	A
I_{B}	Base Current	-100	mA
P_{C}	Collector Power Dissipation	1	W
T_{J}	Junction Temperature	150	$^\circ\text{C}$
T_{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_{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_{CBO}	Collector Cut-off Current	$V_{\text{CB}} = -30\text{V}, I_{\text{E}} = 0$			-0.1	μA
I_{EBO}	Emitter Cut-off Current	$V_{\text{EB}} = -5\text{V}, I_{\text{C}} = 0$			-0.1	μA
h_{FE1}	DC Current Gain	$V_{\text{CE}} = -2\text{V}, I_{\text{C}} = -5\text{mA}$	25			
h_{FE2}			40		250	
		$V_{\text{CE}} = -2\text{V}, I_{\text{C}} = -150\text{mA}$	40		160	
h_{FE3}		$V_{\text{CE}} = -2\text{V}, I_{\text{C}} = -500\text{mA}$	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_{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

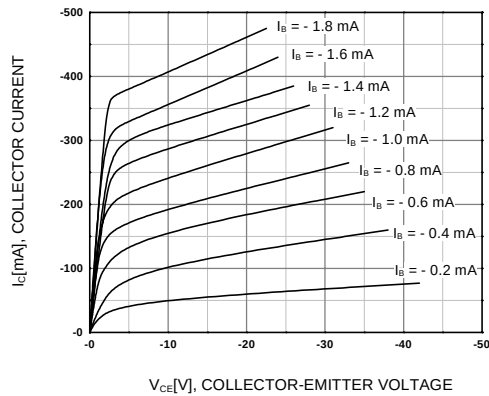


Figure 1. Static Characteristic

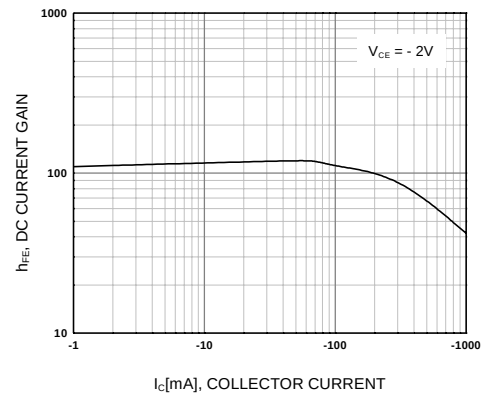


Figure 2. DC current Gain

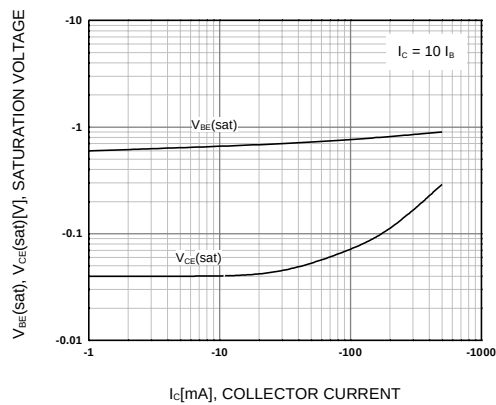


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

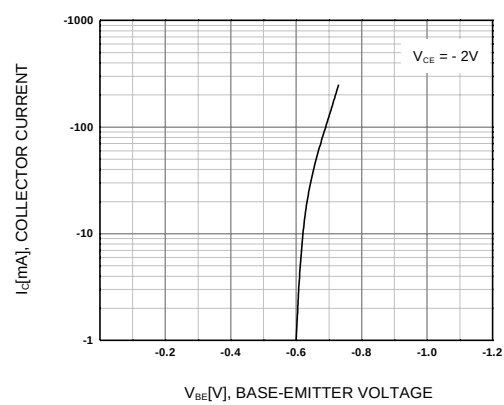


Figure 4. Base-Emitter On Voltage

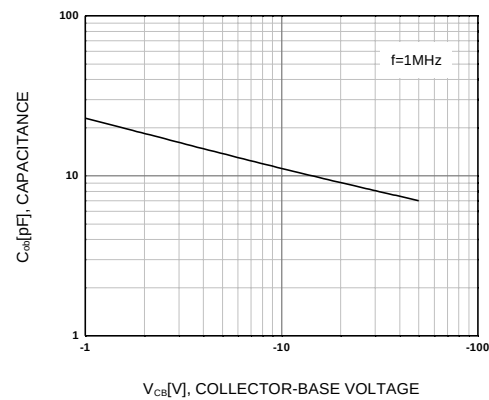
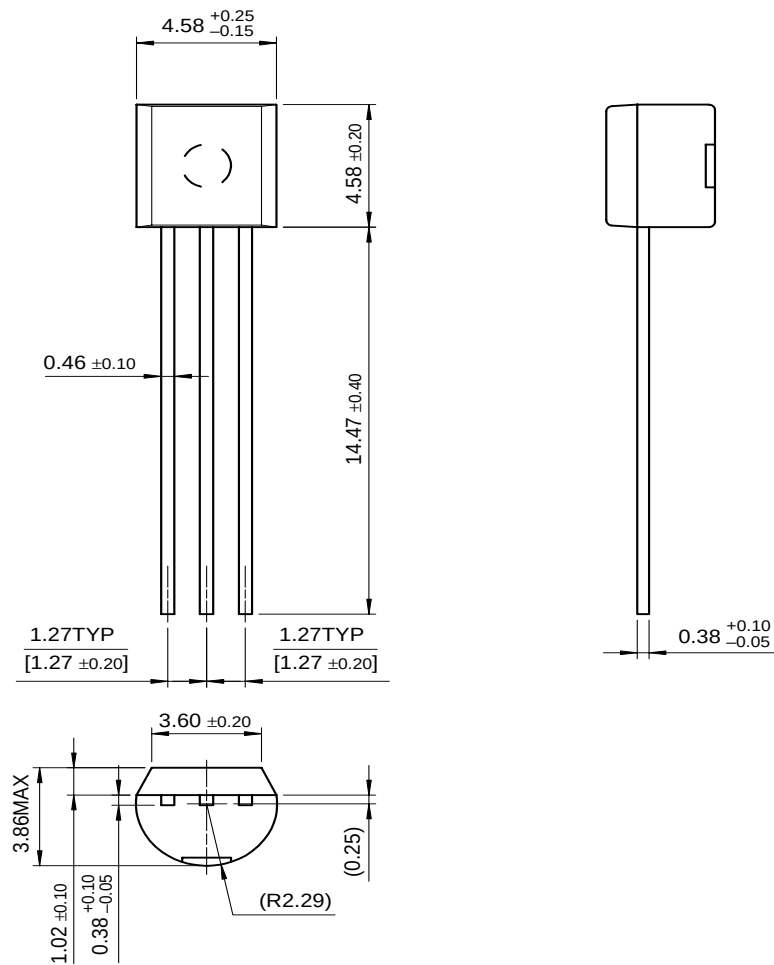


Figure 5. Collector Output Capacitance

Package Dimensions

TO-92

BC636/638/640



Dimensions in Millimeters