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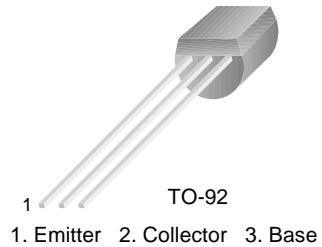
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BC635/637/639

Switching and Amplifier Applications

- Complement to BC636/638/640



NPN 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 $R_{BE}=1\text{K}\Omega$: BC635 : BC637 : BC639	45 60 100	V
V_{CES}	Collector-Emitter Voltage : BC635 : BC637 : BC639	45 60 100	V
V_{CEO}	Collector-Emitter Voltage : BC635 : BC637 : BC639	45 60 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	$^\circ\text{C}$

• PW=5ms, Duty Cycle=10%

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 : BC635 : BC637 : BC639	$I_C=10\text{mA}$, $I_B=0$	45 60 80			V
I_{CBO}	Collector Cut-off Current	$V_{CB}=30\text{V}$, $I_E=0$			0.1	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=5\text{V}$, $I_C=0$			0.1	μA
h_{FE1} h_{FE2} h_{FE3}	DC Current Gain : All : BC635 : BC637/BC639 : All	$V_{CE}=2\text{V}$, $I_C=5\text{mA}$ $V_{CE}=2\text{V}$, $I_C=150\text{mA}$ $V_{CE}=2\text{V}$, $I_C=500\text{mA}$	25 40 40 25		250 160	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=500\text{mA}$, $I_B=50\text{mA}$			0.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=2\text{V}$, $I_C=500\text{mA}$			1	V
f_T	Current Gain Bandwidth Product	$V_{CE}=5\text{V}$, $I_C=10\text{mA}$, $f=50\text{MHz}$		100		MHz

Typical Characteristics

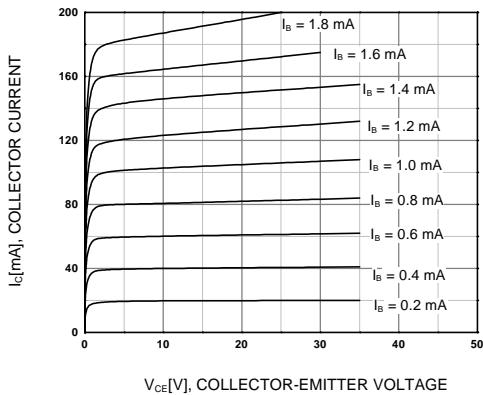


Figure 1. Static Characteristic

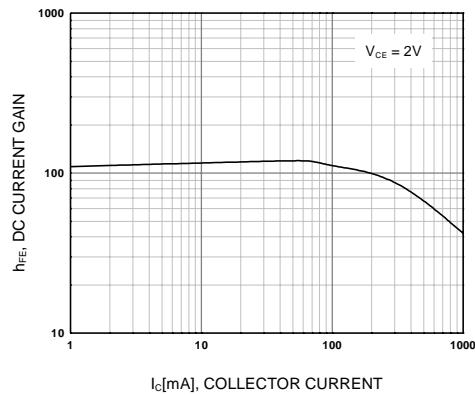


Figure 2. DC current Gain

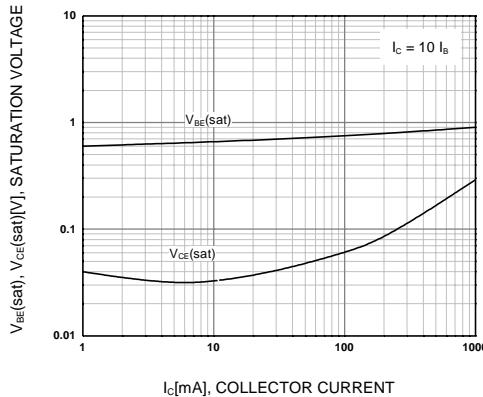


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

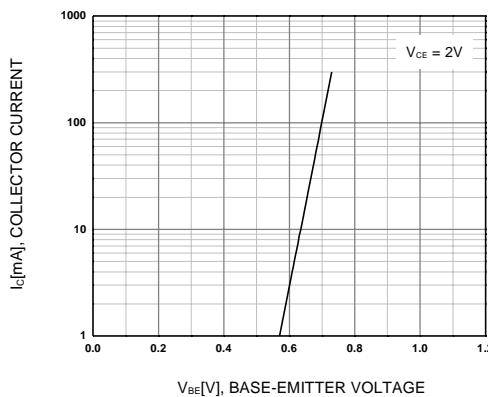


Figure 4. Base-Emitter On Voltage

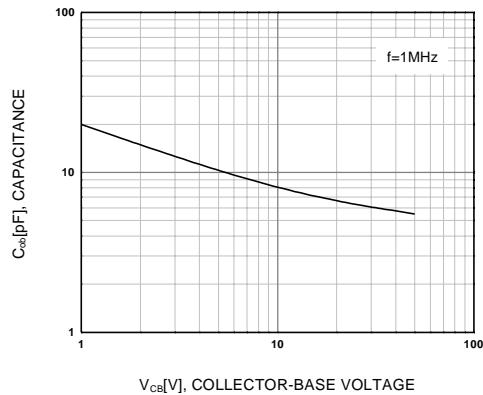
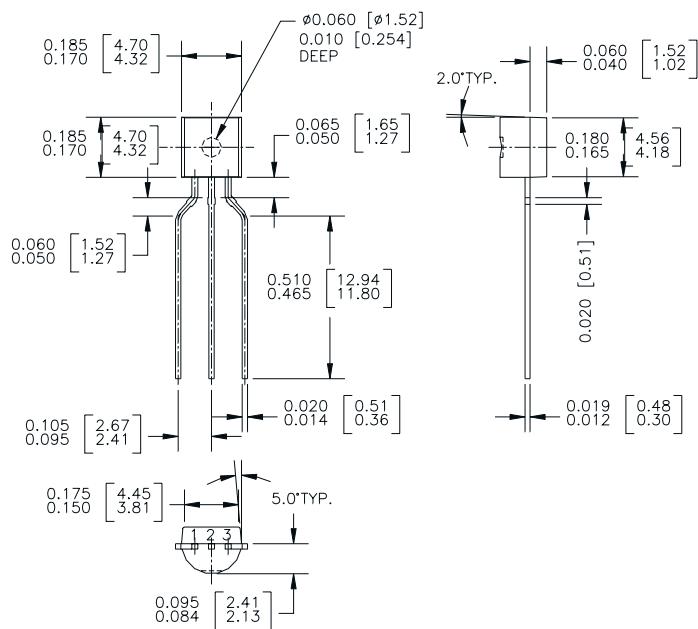


Figure 5. Collector Output Capacitance

Package Dimensions

TO-92



Dimensions in Millimeters

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