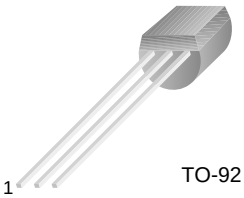
FAIRCHILD SEMICONDUCTOR®

March 2009

BC640
PNP Epitaxial Silicon Transistor

Switching and Amplifier Applications

- Complement to BC639



TO-92

1. Emitter 2. Collector 3. Base

Absolute Maximum Ratings T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CER}	Collector-Emitter Voltage at R_{BE}=1KΩ	-100	V
V_{CES}	Collector-Emitter Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-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	°C
T_{STG}	Storage Temperature	-65 ~ 150	°C

Electrical Characteristics T_a = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C= -10mA, I_B=0	-80			V
I_{CBO}	Collector Cut-off Current	V_{CB}= -30V, I_E=0			-0.1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB}= -5V, I_C=0			-10	μA
h_{FE1} h_{FE2} h_{FE3}	DC Current Gain	V_{CE}= -2V, I_C= -5mA V_{CE}= -2V, I_C= -150mA V_{CE}= -2V, I_C= -500mA	25 40 25		160	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C= -500mA, I_B= -50mA			-0.5	V
V_{BE} (on)	Base-Emitter On Voltage	V_{CE}= -2V, I_C= -500mA			-1	V
f_T	Current Gain Bandwidth Product	V_{CE}= -5V, I_C= -10mA, f=50MHz		100		MHz

Package Marking and Ordering Information

Device Marking	Device	Package
BC640	BC640	TO-92
BC640	BC640BU	TO-92
BC640	BC640TA	TO-92
BC640	BC640TAR	TO-92
BC640	BC640TF	TO-92
BC640	BC640TFR	TO-92
BC640	BC640_J35Z	TO-92
BC640	BC640_J61Z	TO-92

Typical Performance Characteristics

Figure 1. Static Characteristic

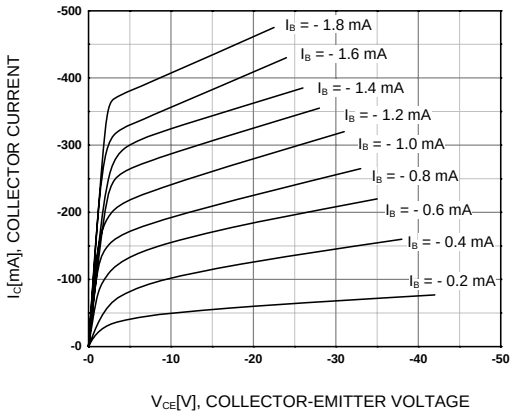


Figure 2. DC Current Gain

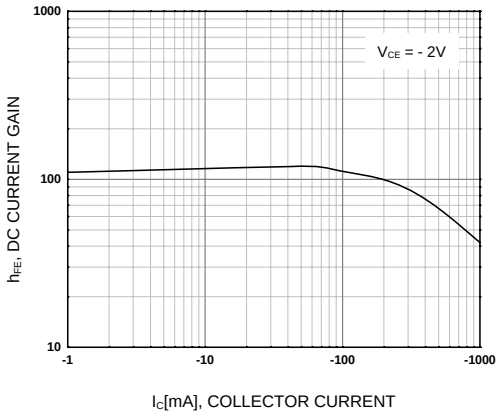


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

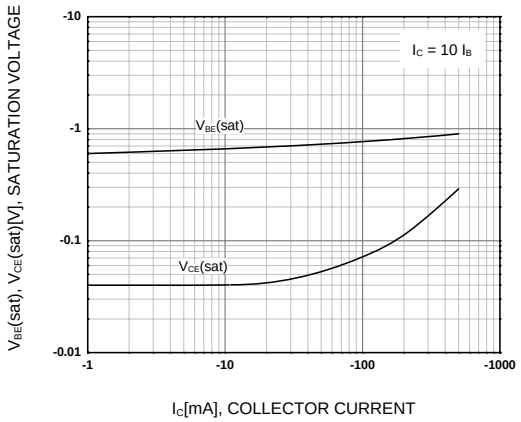


Figure 4. Base-Emitter On Voltage

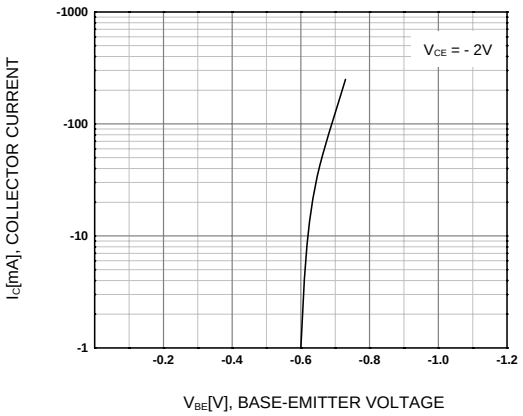
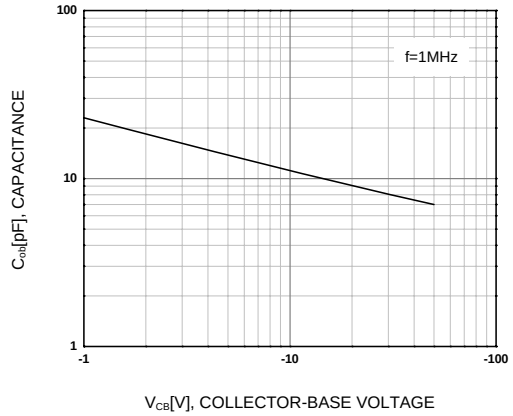
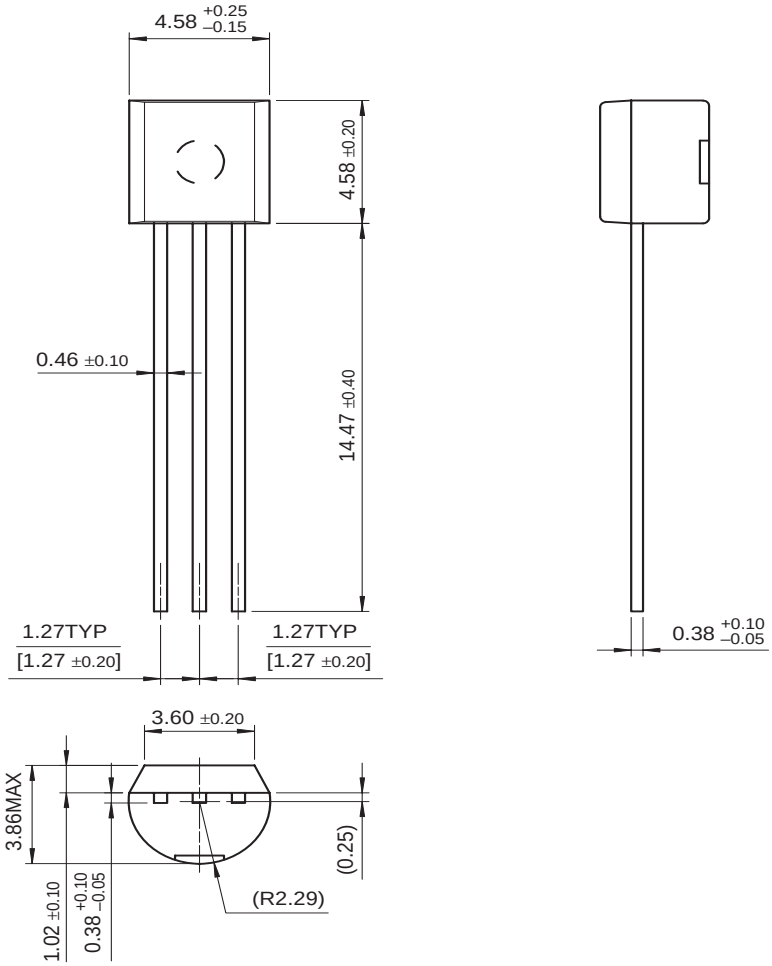


Figure 5. Collector Output Capacitance



Mechanical Dimensions

TO-92



Dimensions in Millimeters

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