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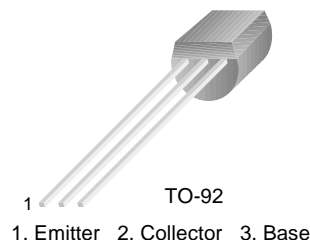
sales@integrated-circuit.com



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 $R_{\text{BE}}=1\text{K}\Omega$		
	: BC635	45	V
	: BC637	60	V
	: BC639	100	V
V_{CES}	Collector-Emitter Voltage		
	: BC635	45	V
	: BC637	60	V
	: BC639	100	V
V_{CEO}	Collector-Emitter Voltage		
	: BC635	45	V
	: BC637	60	V
	: BC639	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	$I_{\text{C}}=10\text{mA}, I_{\text{B}}=0$					
	: BC635		45			V	
	: BC637		60			V	
	: BC639		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} h_{FE2}	DC Current Gain	: All	$V_{\text{CE}}=2\text{V}, I_{\text{C}}=5\text{mA}$	25			
		: BC635	$V_{\text{CE}}=2\text{V}, I_{\text{C}}=150\text{mA}$	40		250	
		: BC637/BC639		40		160	
		: All	$V_{\text{CE}}=2\text{V}, I_{\text{C}}=500\text{mA}$	25			
$V_{\text{CE(sat)}}$	Collector-Emitter Saturation Voltage	$I_{\text{C}}=500\text{mA}, I_{\text{B}}=50\text{mA}$			0.5	V	
$V_{\text{BE(on)}}$	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

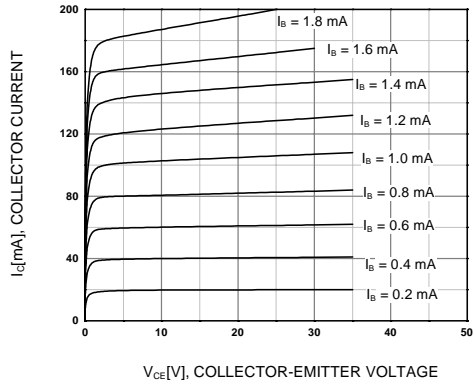


Figure 1. Static Characteristic

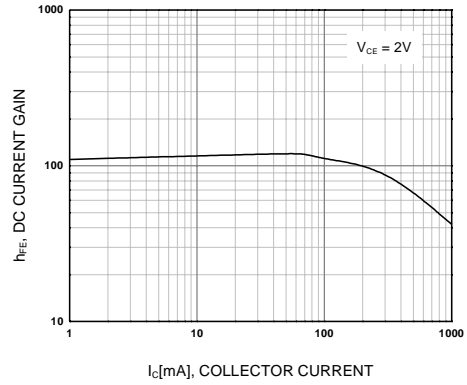


Figure 2. DC current Gain

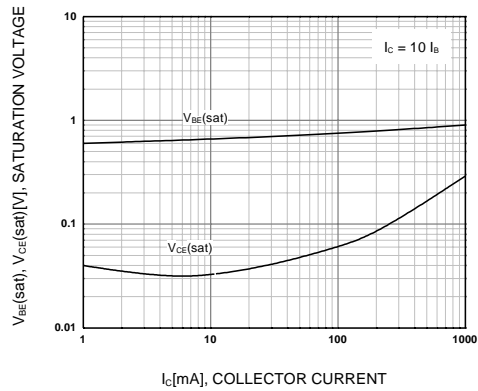


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

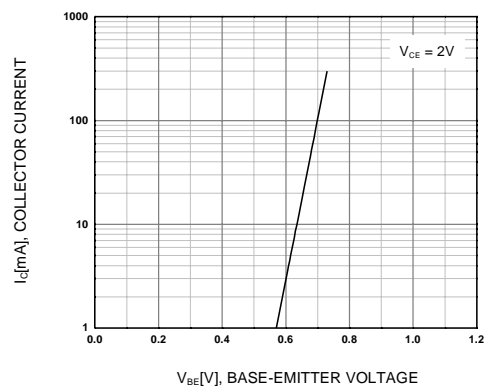


Figure 4. Base-Emitter On Voltage

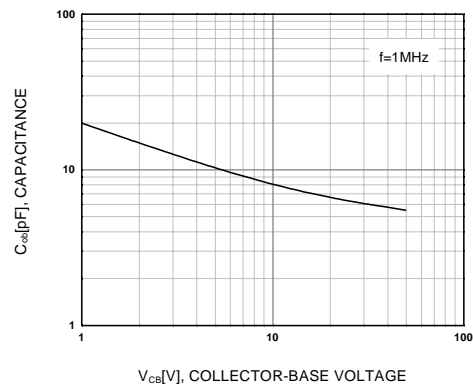
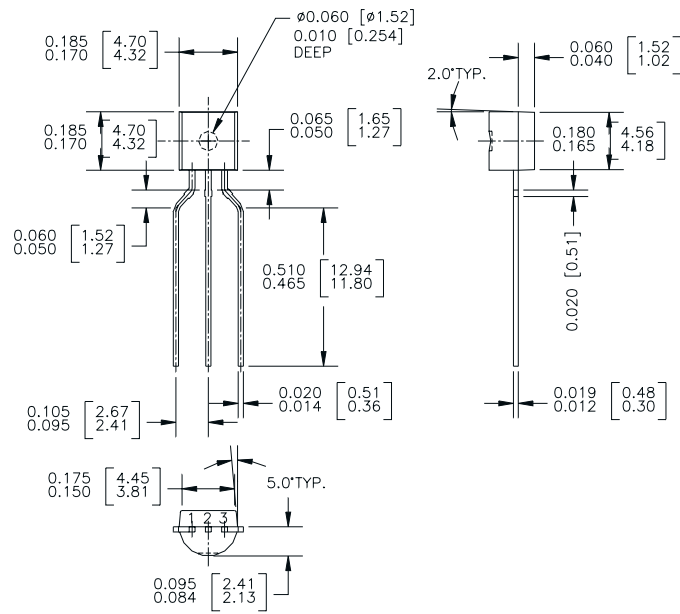


Figure 5. Collector Output Capacitance

Package Dimensions

TO-92

BC635/637/639



Dimensions in Millimeters

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