

**TO-92 Plastic-Encapsulate Transistors****BC635/637/639** TRANSISTOR (NPN)**FEATURES**

High current transistors

TO-92

1. EMITTER
2. COLLECTOR
3. BASE

**MAXIMUM RATINGS** ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	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 -Continuous	1	A
P_C	Collector Power Dissipation	0.625	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-65-150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}$, $I_B=0$ BC635	45			V
		BC637	60			V
		BC639	80			V
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{V}$, $I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}$, $I_B=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=2\text{V}$, $I_C=5\text{mA}$	25			
	$h_{FE(2)}$	$V_{CE}=2\text{V}$, $I_C=150\text{mA}$ BC635	40		250	
		BC637-10/BC639-10	63		160	
		BC637-16/BC639-16	100		250	
	$h_{FE(3)}$	$V_{CE}=2\text{V}$, $I_C=500\text{mA}$	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$			0.5	V
Base-emitter voltage	V_{BE}	$V_{CE}=2\text{V}$, $I_C=500\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=5\text{V}$, $I_C=10\text{mA}$, $f=50\text{MHz}$		100		MHz

Typical Characteristics

BC635/637/639

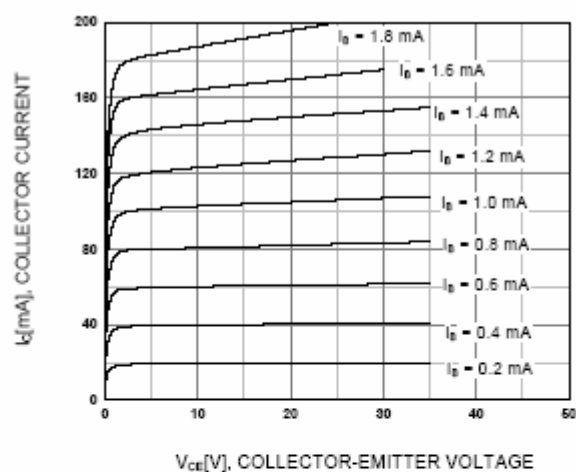


Figure 1. Static Characteristic

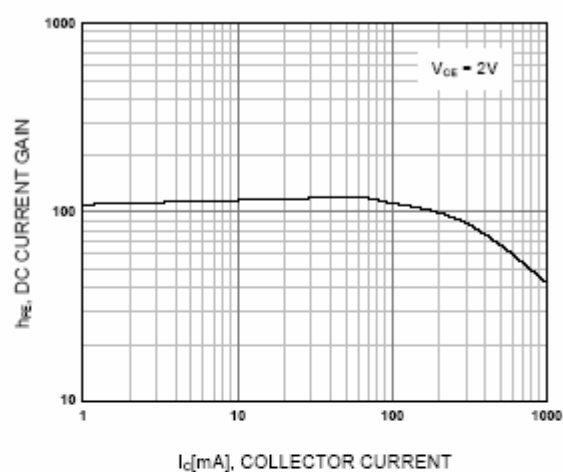


Figure 2. DC current Gain

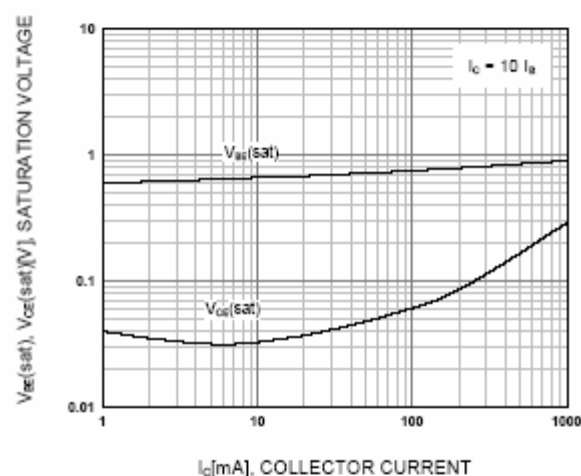


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

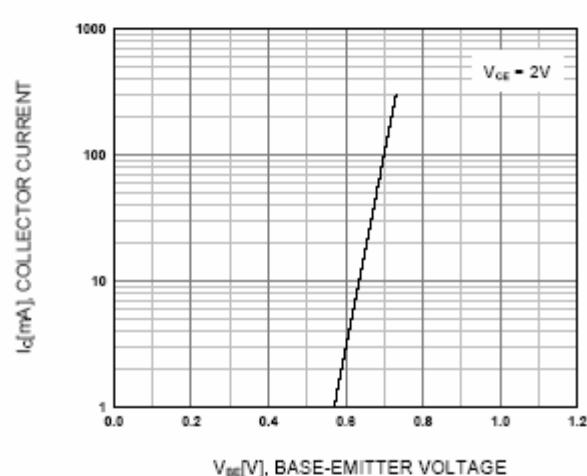


Figure 4. Base-Emitter On Voltage

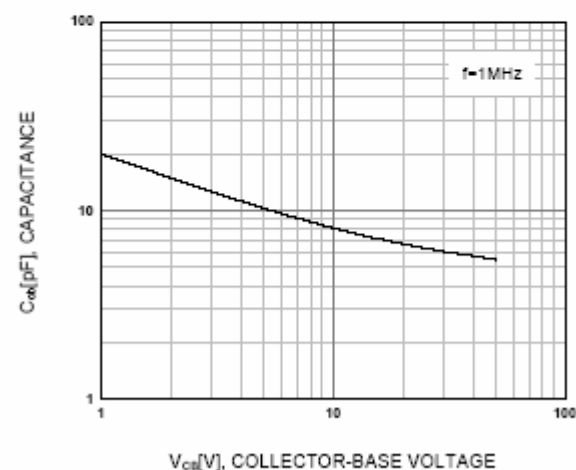


Figure 5. Collector Output Capacitance