

TO-92 Plastic-Encapsulate Transistors

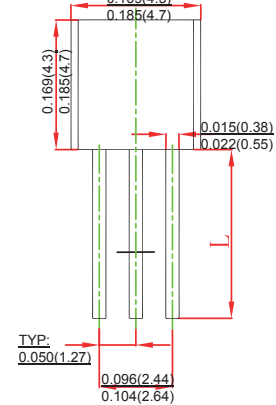
FEATURES

- High current transistors
- TRANSISTOR (PNP)

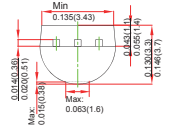
MECHANICAL DATA

- Case style: TO-92 molded plastic
- Mounting position: any

TO-92



1. EMITTER
2. COLLECTOR
3. BASE



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	BC636	-45
		BC638	-60
		BC640	-100
V_{CEO}	Collector-Emitter Voltage	BC636	-45
		BC638	-60
		BC640	-80
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-1	A
P_C	Collector Power Dissipation	0.83	W
$R_{\theta JA}$	Thermal Resistance, junction to Ambient	150	°C/W
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55-150	°C

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}, I_E=0$	BC636	-45		V
			BC638	-60		
			BC640	-100		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	BC636	-45		V
			BC638	-60		
			BC640	-80		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-5		V	
Collector cut-off current	I_{CBO}	$V_{CB}=-30\text{V}, I_E=0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$			-0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-2\text{V}, I_C=5\text{mA}$	40			
	$h_{FE(2)}$	$V_{CE}=-2\text{V}, I_C=150\text{mA}$	63	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	$V_{CE}=-5\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	100			MHz

CLASSIFICATION OF $h_{FE(2)}$

Rank	BC636-10	BC636-16, BC638-16, BC640-16
Range	63-160	100-250