

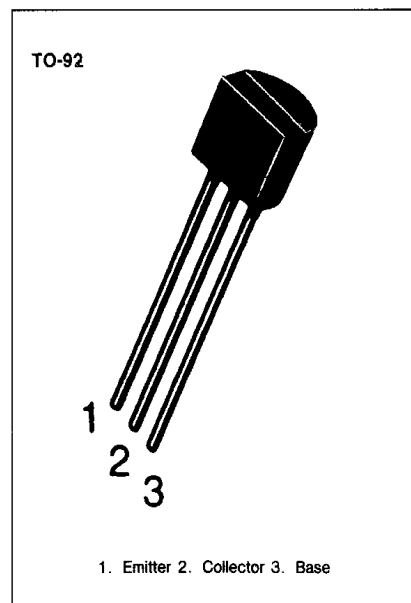
# Transistors

## BC640

### SWITCHING AND AMPLIFIER APPLICATIONS

### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Collector Emitter Voltage at $R_{BE} = 1\text{Kohm}$	$V_{CER}$	-100	V
Collector Emitter Voltage	$V_{CES}$	-100	V
Collector Emitter Voltage	$V_{CEO}$	-80	V
Emitter Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-1	A
Peak Collector Current	$I_{CP}$	-1.5	A
Base Current	$I_B$	-100	mA
Collector Dissipation	$P_c$	1	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-65 ~ 150	$^\circ\text{C}$



### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = -10\text{mA}, I_B = 0$	-80			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = -30\text{V}, I_E = 0$			-0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$			-0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = -2\text{V}, I_C = -5\text{mA}$ $V_{CE} = -2\text{V}, I_C = -150\text{mA}$	25			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	40		160	
Base Emitter On Voltage	$V_{BE(on)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$	25		-0.5	V
Current Gain Bandwidth Product	$f_T$	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$ $V_{CE} = -5\text{V}, I_C = -10\text{mA}, f = 50\text{MHz}$		100	-1	MHz

