

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

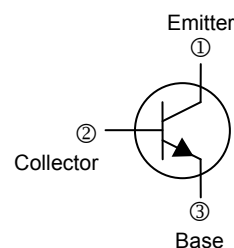
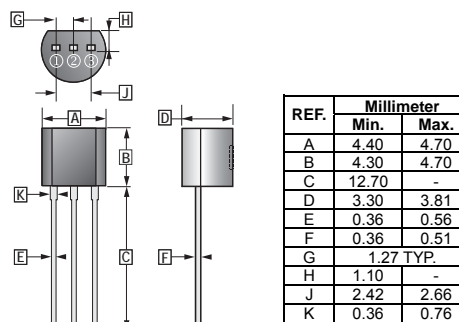
TO-92

## FEATURES

- Power Dissipation

## CLASSIFICATION OF $h_{FE}$

Rank	R	0	Y	GR
Range	60-120	100-200	160-320	200-400



## ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Collector to Base Voltage	$V_{CBO}$	40	V
Collector to Emitter Voltage	$V_{CEO}$	30	V
Emitter to Base Voltage	$V_{EBO}$	6	V
Collector Current - Continuous	$I_C$	3	A
Collector Power Dissipation	$P_C$	625	mW
Junction, Storage Temperature	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	40	-	-	V	$I_C=100\ \mu\text{A}, I_E=0\ \text{A}$
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	30	-	-	V	$I_C=10\ \text{mA}, I_B=0\ \text{A}$
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	6	-	-	V	$I_E=100\ \mu\text{A}, I_C=0\ \text{A}$
Collector Cut-Off Current	$I_{CBO}$	-	-	1	$\mu\text{A}$	$V_{CB}=40\ \text{V}, I_E=0\ \text{A}$
Collector Cut-Off Current	$I_{CEO}$	-	-	10	$\mu\text{A}$	$V_{CE}=30\ \text{V}, I_B=0\ \text{A}$
Emitter Cut-Off Current	$I_{EBO}$	-	-	1	$\mu\text{A}$	$V_{EB}=6\ \text{V}, I_C=0\ \text{A}$
DC Current Gain	$h_{FE}$	60	-	400		$V_{CE}=2\ \text{V}, I_C=1\ \text{A}$
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	0.5	V	$I_C=2\ \text{A}, I_B=0.2\ \text{A}$
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	-	-	1.5	V	$I_C=2\ \text{A}, I_B=0.2\ \text{A}$
Transition Frequency	$f_T$	50	-	-	MHz	$V_{CE}=5\ \text{V}, I_C=0.1\ \text{A}, f=10\ \text{MHz}$

**CHARACTERISTIC CURVES**

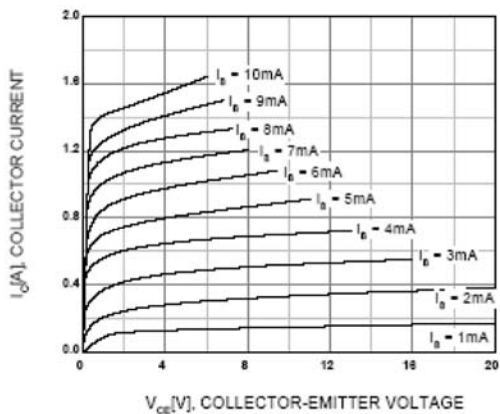


Figure 1. Static Characteristic

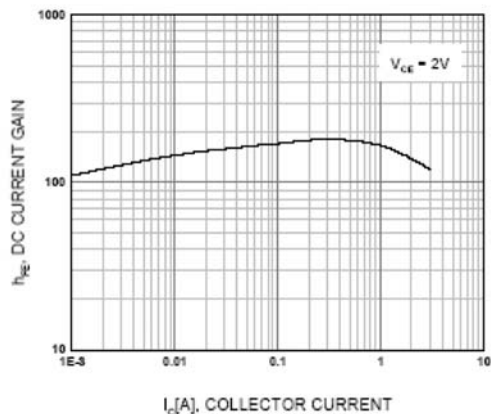


Figure 2. DC current Gain

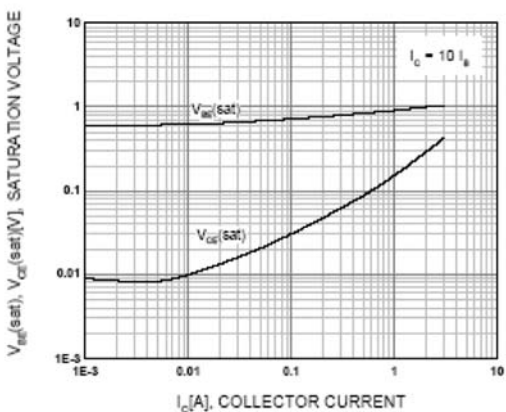


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

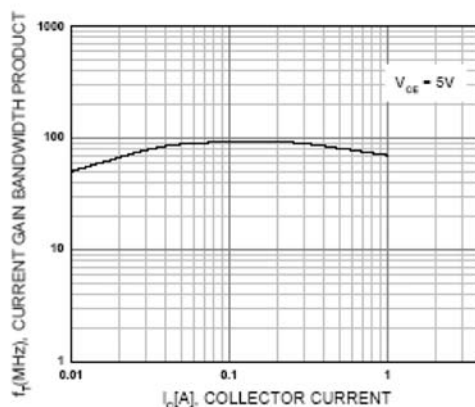


Figure 4. Current Gain Bandwidth Product

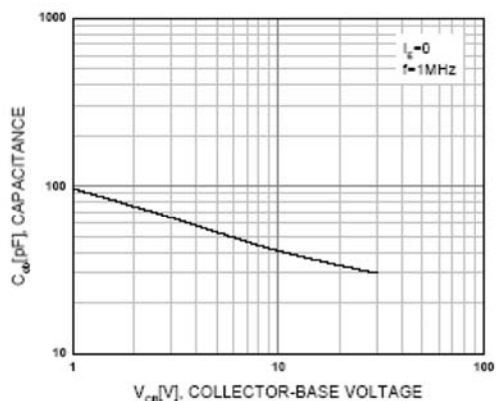


Figure 5. Collector Output Capacitance