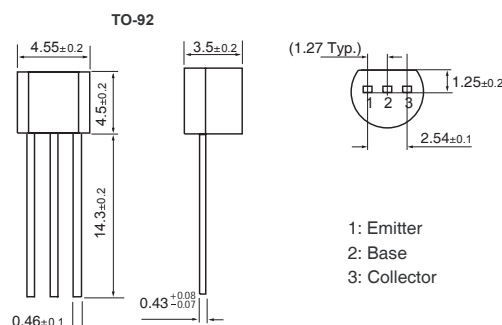


RoHS Compliant Product  
A suffix of "-C" specifies halogen and lead free

## FEATURES

- Excellent  $h_{FE}$  linearity



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

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	$V_{CBO}$	-40	V
Collector to Emitter Voltage	$V_{CEO}$	-25	V
Emitter to Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-500	mA
Total Power Dissipation	$P_D$	625	mW
Junction, Storage Temperature	$T_J, T_{STG}$	+150, -55 ~ +150	$^\circ\text{C}$

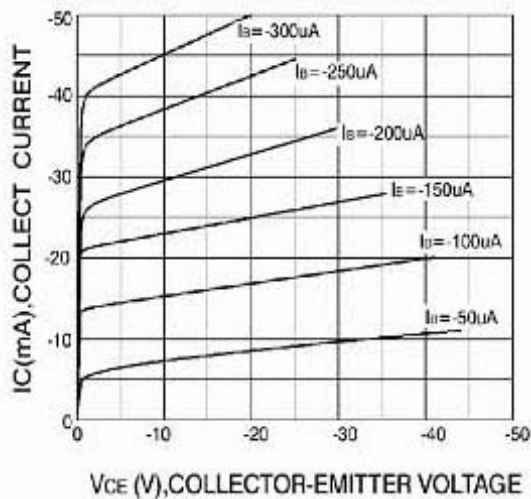
## ELECTRICAL CHARACTERISTICS ( $T_{AMB} = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-base Breakdown Voltage	$V_{(BR)CBO}$	-40	-	-	V	$I_C = -100 \mu\text{A}, I_E = 0$
Collector-emitter Breakdown Voltage	$V_{(BR)CEO}$	-25	-	-	V	$I_C = -1 \text{ mA}, I_B = 0$
Emitter-base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-	V	$I_E = -100 \mu\text{A}, I_C = 0$
Collector Cut-off Current	$I_{CBO}$	-	-	-0.1	$\mu\text{A}$	$V_{CB} = -40 \text{ V}, I_E = 0$
Collector Cut-off Current	$I_{CEO}$	-	-	-0.1	$\mu\text{A}$	$V_{CE} = -20 \text{ V}, I_B = 0$
Emitter Cut-off Current	$I_{EBO}$	-	-	-0.1	$\mu\text{A}$	$V_{EB} = -3 \text{ V}, I_C = 0$
DC Current Gain	$h_{FE(1)}$	85	-	400		$V_{CE} = -1 \text{ V}, I_C = -50 \text{ mA}$
	$h_{FE(2)}$	50	-	-		$V_{CE} = -1 \text{ V}, I_C = -500 \text{ mA}$
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-0.6	V	$I_C = -500 \text{ mA}, I_B = -50 \text{ mA}$
Base-emitter Saturation Voltage	$V_{BE(sat)}$	-	-	-1.2	V	$I_C = -500 \text{ mA}, I_B = -50 \text{ mA}$
Transition Frequency	$f_T$	150	-	-	MHz	$V_{CE} = -6 \text{ V}, I_C = -20 \text{ mA}, f = 30 \text{ MHz}$

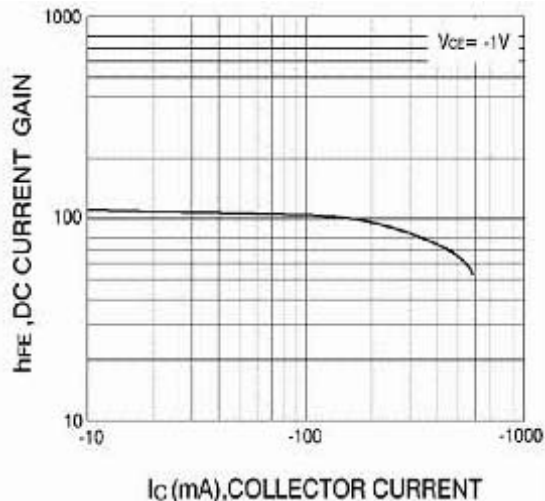
## CLASSIFICATION OF $h_{FE}$

Rank	B	C	D	D3
Range	85 - 160	120 - 200	160 - 300	300 - 400

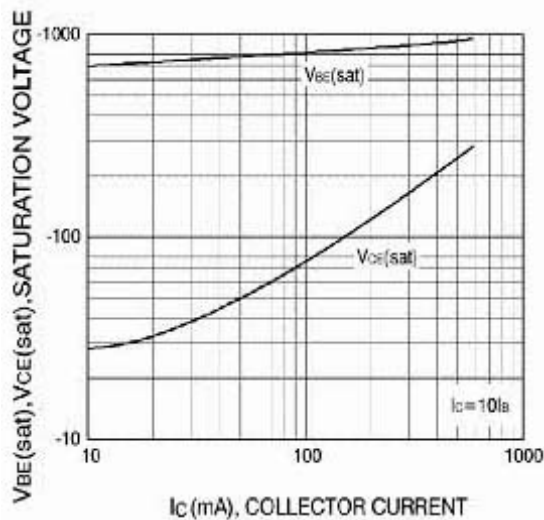
**CHARACTERISTIC CURVES**



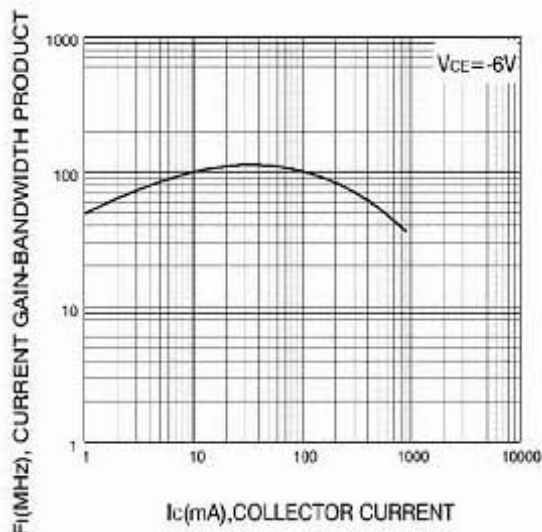
**Static Characteristic**



**DC current Gain**



**Base-Emitter Saturation Voltage  
Collector-Emmitter Saturation Voltage**



**Current Gain Bandwidth Product**