



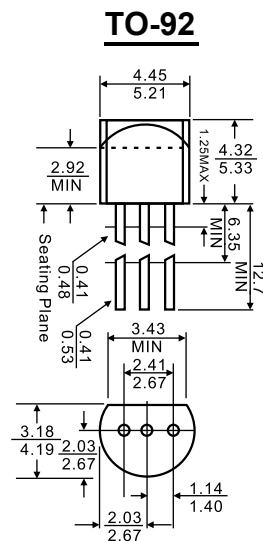
1. COLLECTOR
2. BASE
3. EMITTER

## Features

- ◇ Power dissipation

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	40	V
$V_{CEO}$	Collector-Emitter Voltage	15	V
$V_{EBO}$	Emitter-Base Voltage	4.5	V
$I_C$	Collector Current –Continuous	0.2	A
$P_C$	Collector Power Dissipation	500	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$



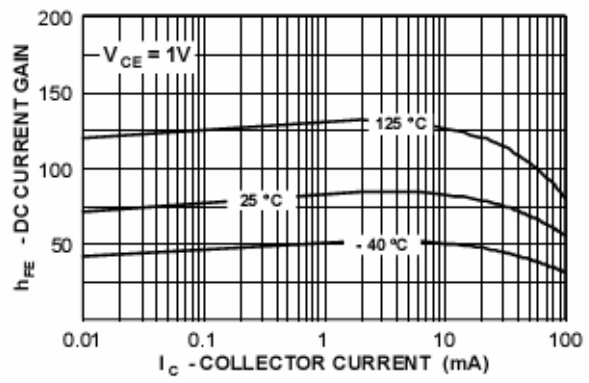
Dimensions in inches and (millimeters)

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

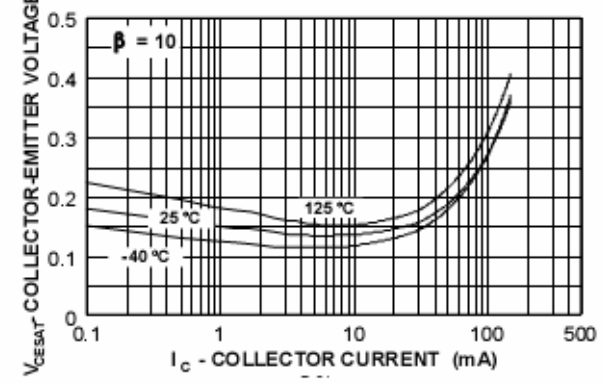
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	4.5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=20\text{V}, I_E=0$			0.4	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE1}$	$V_{CE}=1\text{V}, I_C=10\text{mA}$	40		120	
	$h_{FE2}$	$V_{CE}=2\text{V}, I_C=100\text{mA}$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.25	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$	0.7		0.85	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=10\text{mA}$ $f=100\text{MHz}$	500			MHz
Collector capacitance	$C_c$	$V_{CB}=5\text{V}, I_E=0, f=1\text{MHz}$			4	pF
Emitter capacitance	$C_e$	$V_{EB}=1\text{V}, I_E=0, f=1\text{MHz}$			4.5	pF
Turn-on time	$t_{on}$	$V_{CC}=3\text{V}, I_C=10\text{mA}, I_{B1}=3\text{mA}$			10	nS
Turn-off time	$t_{off}$				20	nS

## Typical Characteristics

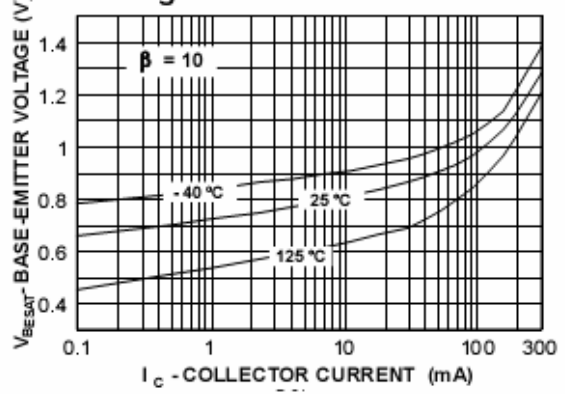
**DC Current Gain vs Collector Current**



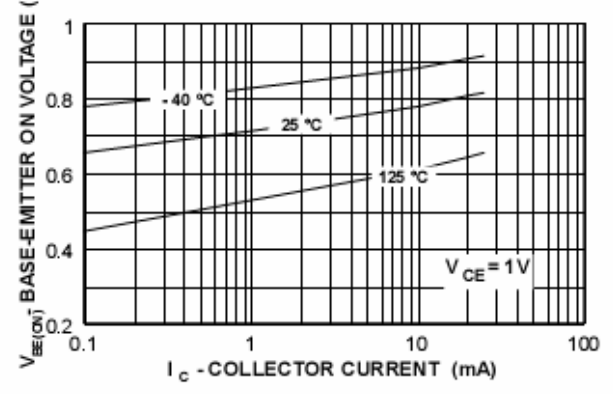
**Collector-Emitter Saturation Voltage vs Collector Current**



**Base-Emitter Saturation Voltage vs Collector Current**



**Base-Emitter ON Voltage vs Collector Current**



**Collector-Cutoff Current vs Ambient Temperature**

