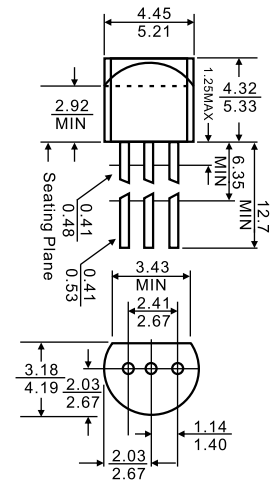




1. EMITTER
2. BASE
3. COLLECTOR

### TO-92



Dimensions in inches and (millimeters)

## Features

- ✧ Power amplifier

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

Symbol	Parameter	Value	Units
$V_{CB0}$	Collector-Base Voltage	80	V
$V_{CE0}$	Collector-Emitter Voltage	80	V
$V_{EB0}$	Emitter-Base Voltage	4	V
$I_C$	Collector Current -Continuous	0.5	A
$P_C$	Collector Power Dissipation	625	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	417	$^\circ\text{C}/\text{W}$

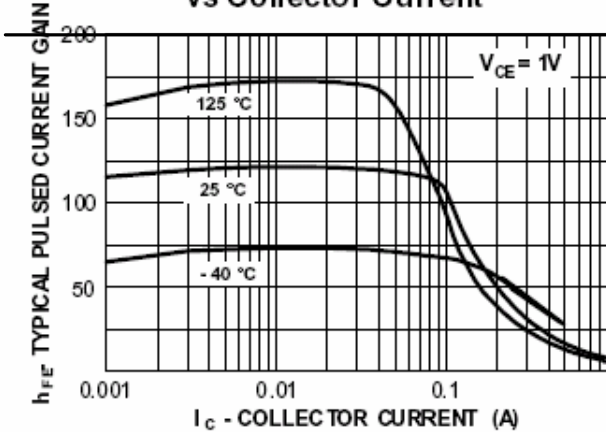
### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CB0}$	$I_C=100\mu\text{A}, I_E=0$	80		V
Collector-emitter breakdown voltage	$V_{(BR)CE0}$	$I_C=1\text{mA}, I_B=0$	80		V
Emitter-base breakdown voltage	$V_{(BR)EB0}$	$I_E=100\mu\text{A}, I_C=0$	4		V
Collector cut-off current	$I_{CB0}$	$V_{CB}=80\text{V}, I_E=0$		0.1	$\mu\text{A}$
Collector cut-off current	$I_{CE0}$	$V_{CE}=60\text{V}, I_B=0$		0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EB0}$	$V_{EB}=3\text{V}, I_C=0$		0.1	$\mu\text{A}$
DC current gain	$h_{FE1}$	$V_{CE}=1\text{V}, I_C=100\text{mA}$	100	400	
	$h_{FE2}$	$V_{CE}=1\text{V}, I_C=10\text{mA}$	100		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.25	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		1.2	V
Transition frequency	$f_T$	$V_{CE}=2\text{V}, I_C=10\text{mA}$ $f=100\text{MHz}$	100		MHz

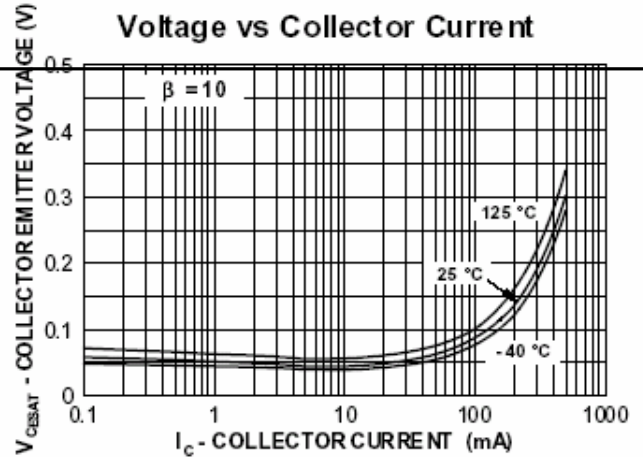


## Typical Characteristics

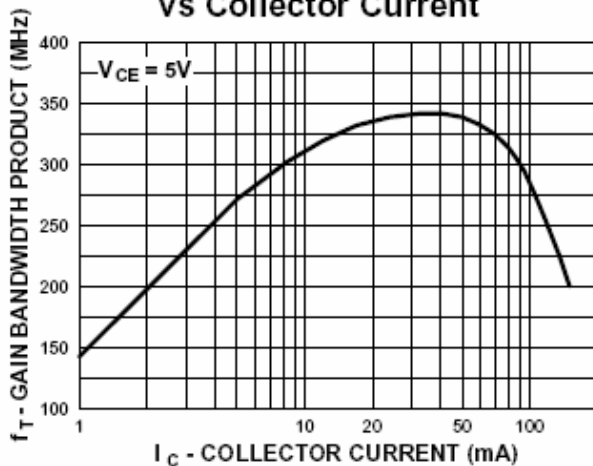
**Typical Pulsed Current Gain vs Collector Current**



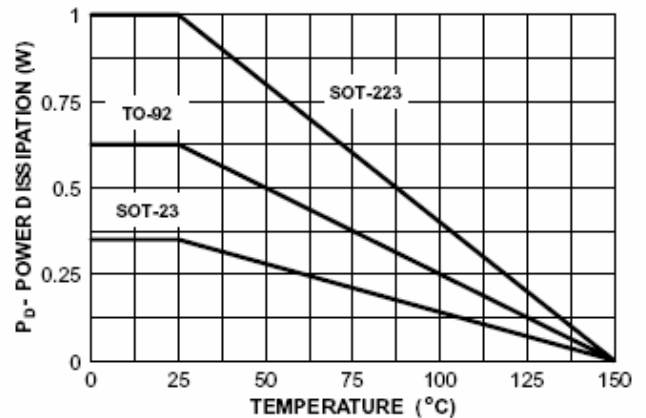
**Collector-Emitter Saturation Voltage vs Collector Current**



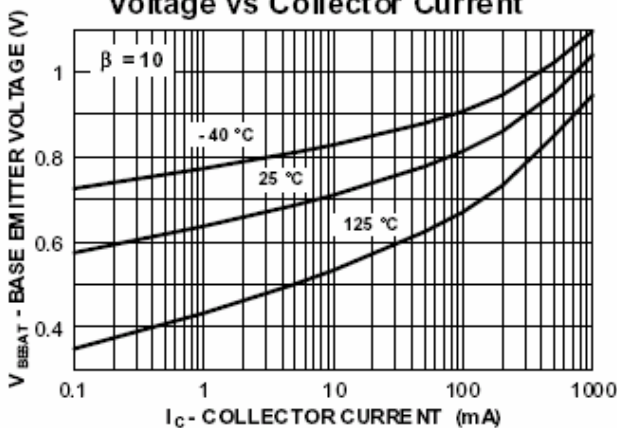
**Gain Bandwidth Product vs Collector Current**



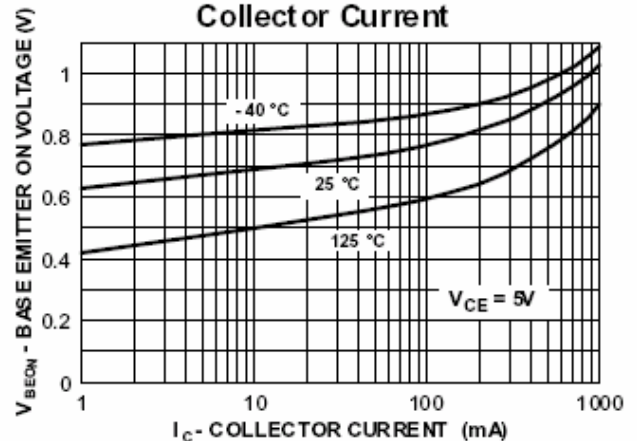
**Power Dissipation vs Ambient Temperature**



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

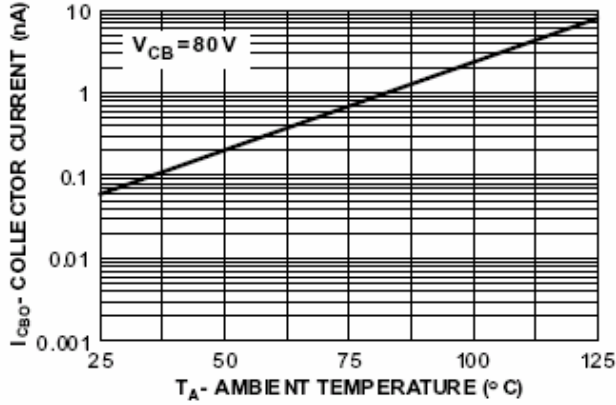


**Base Emitter ON Voltage vs Collector Current**

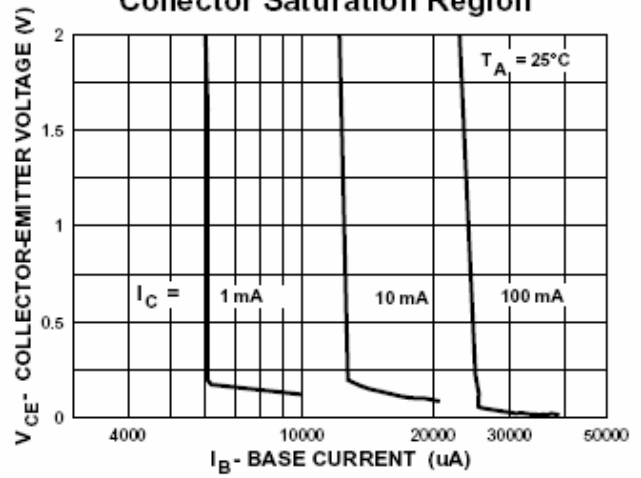




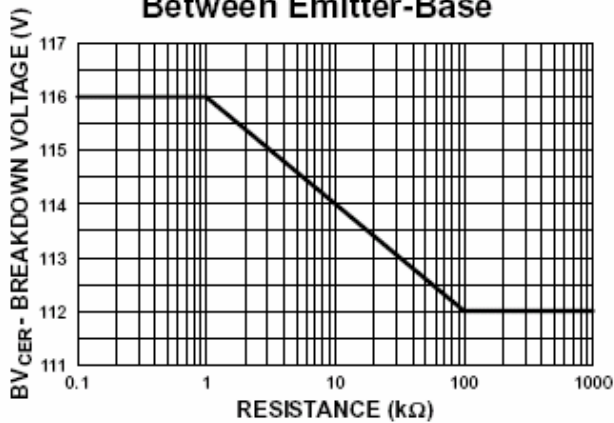
**Collector-Cutoff Current vs Ambient Temperature**



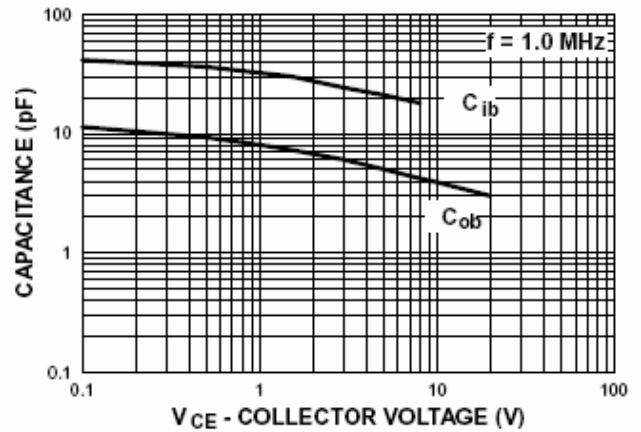
**Collector Saturation Region**



**Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base**



**Input and Output Capacitance vs Reverse Voltage**



Package	Packing	Quantity	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	Bulk	1000pcs/BP	10,000pcs	245×170×100	100,000pcs	525×375×270
TO-92	Tape	2000pcs/TP	2000pcs	333×162×43	20,000pcs	350×340×250