



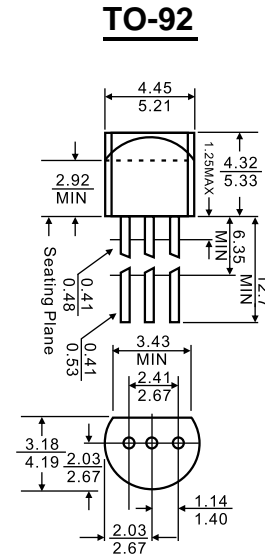
1. EMITTER
2. COLLECTOR
3. BASE

Features

- ✧ High forward current transfer ratio h_{FE}
- ✧ Low collector to emitter saturation voltage $V_{CE(sat)}$
- ✧ Allowing supply with the radial taping.

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current -Continuous	100	mA
P_C	Collector Power Dissipation	400	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$



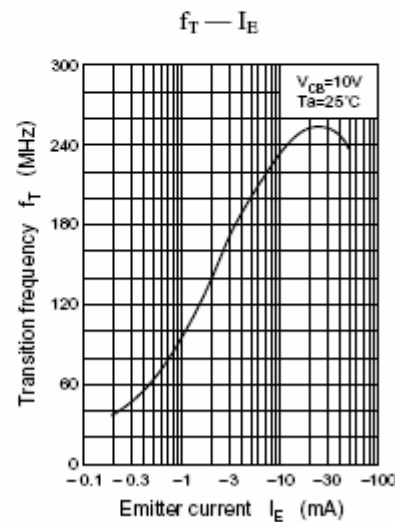
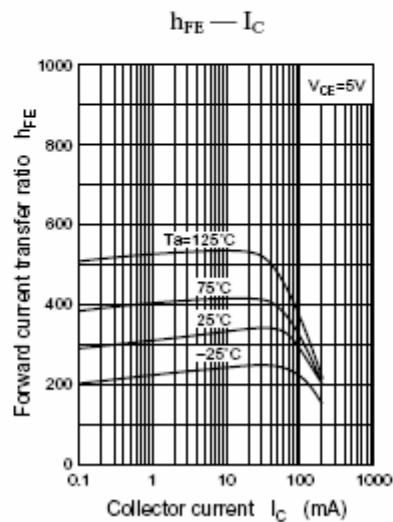
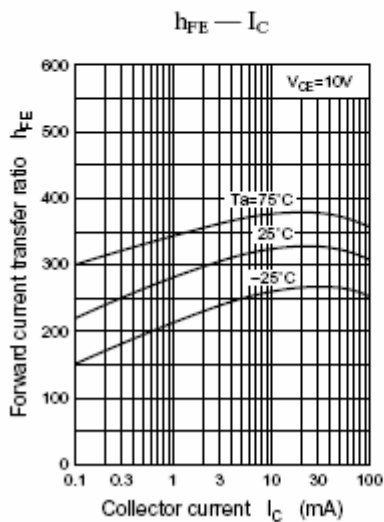
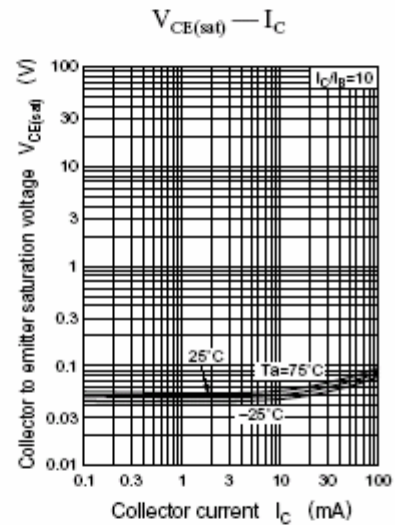
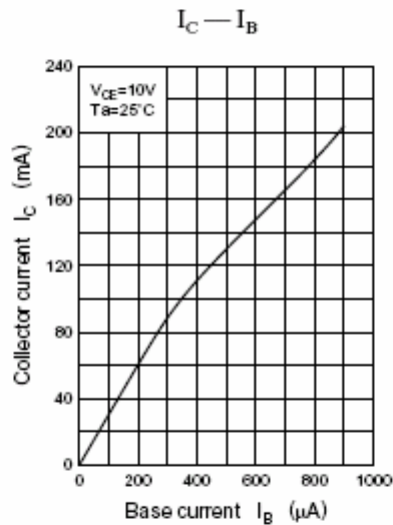
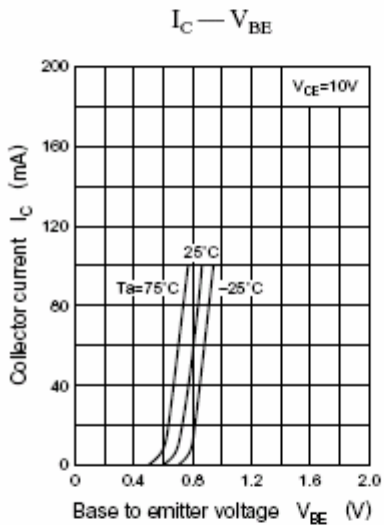
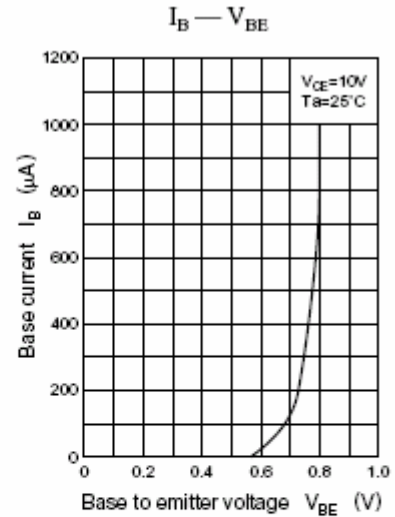
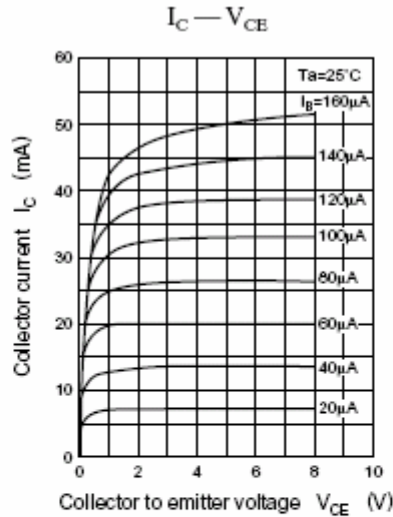
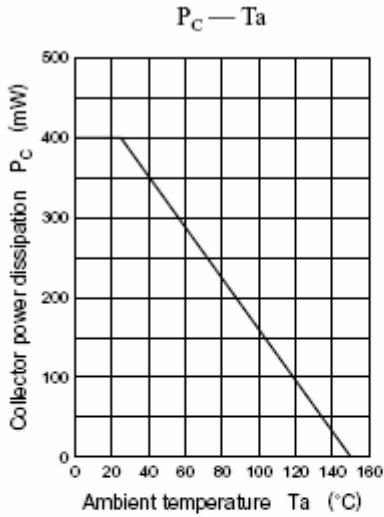
Dimensions in inches and (millimeters)

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=2\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	7			V
Collector cut-off current	I_{CBO}	$V_{CB}=20\text{V}, I_E=0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=7\text{V}, I_C=0$			1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=10\text{V}, I_C=2\text{mA}$	160		460	
	$h_{FE(2)}$	$V_{CE}=2\text{V}, I_C=100\text{mA}$	90			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.3	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=2\text{mA}, f=200\text{MHz}$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		3.5		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	Q	R	S
Range	160-260	210-340	290-460

Typical Characteristics




2SD1991A(NPN)

TO-92 Bipolar Transistors

