



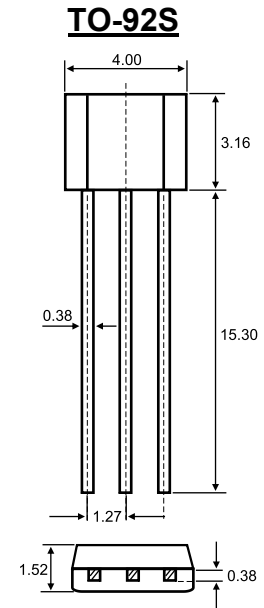
1. EMITTER
2. COLLECTOR
3. BASE

Features

- ✧ Excellent h_{FE} linearity

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

Symbol	Parameter	Value	Units
V_{CB0}	Collector-Base Voltage	-60	V
V_{CE0}	Collector-Emitter Voltage	-50	V
V_{EB0}	Emitter-Base Voltage	-6	V
I_C	Collector Current	-150	mA
P_C	Collector Power dissipation	300	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	$V_{(BR)CBO}$	$I_C=-50\mu\text{A}, I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-50\mu\text{A}, I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB}=-60\text{V}, I_E=0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-6\text{V}, I_C=0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE}=-6\text{V}, I_C=-1\text{mA}$	120		560	
Collector-emitter saturation voltage	V_{CEsat}	$I_C=-50\text{mA}, I_B=-5\text{mA}$			-0.5	V
Transition frequency	f_T	$V_{CE}=-12\text{V}, I_C=-2\text{mA}$ $f=30\text{MHz}$		140		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-12\text{V}, I_C=0, f=1\text{MHz}$		4	5	pF

CLASSIFICATION OF h_{FE}

Rank	Q	R	S
Range	120-270	180-390	270-560



Typical characteristics

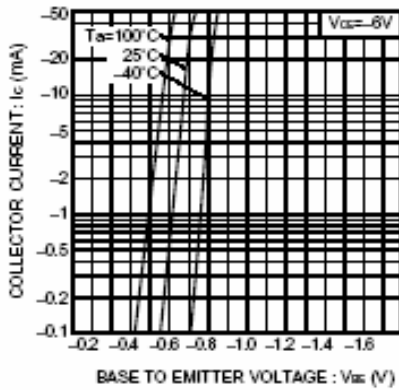


Fig.1 Grounded emitter propagation characteristics

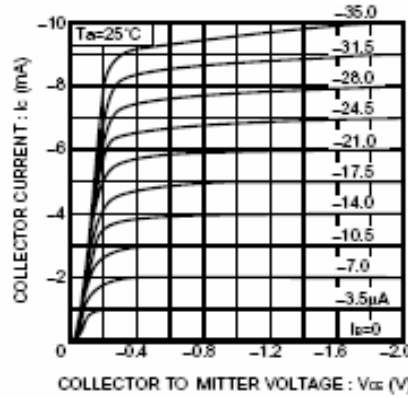


Fig.2 Grounded emitter output characteristics (I)

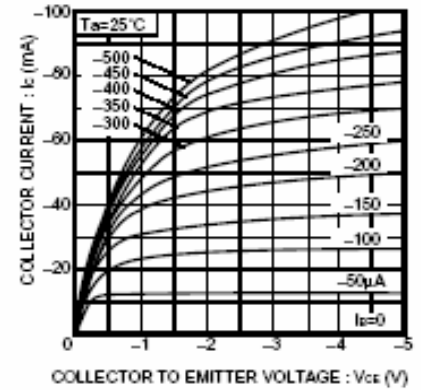


Fig.3 Grounded emitter output characteristics (II)

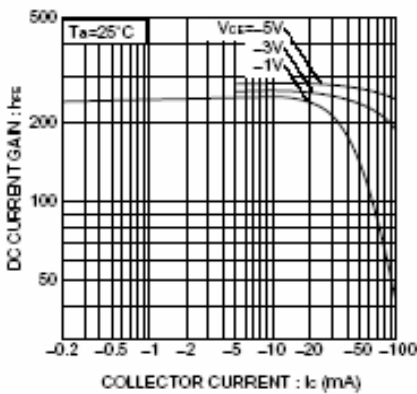


Fig.4 DC current gain vs. collector current (I)

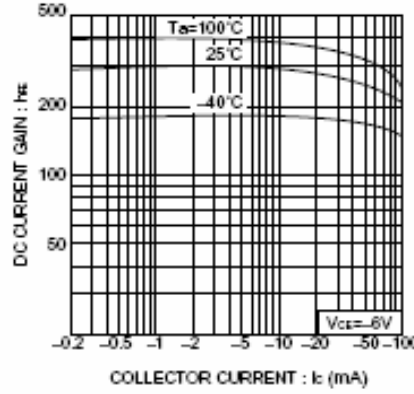


Fig.5 DC current gain vs. collector current (II)

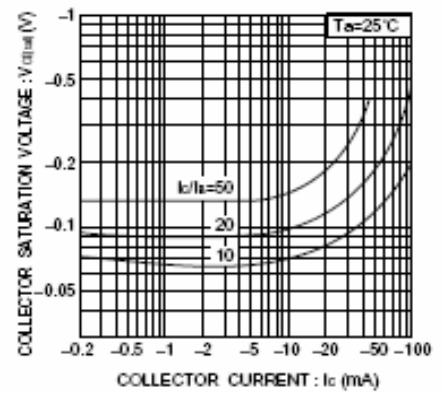


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

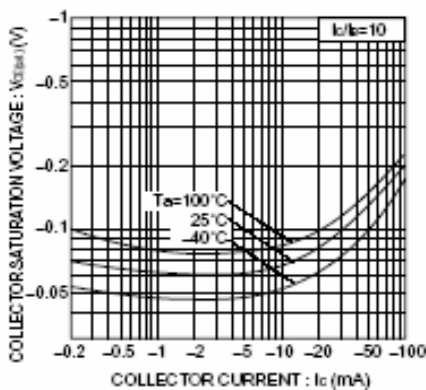


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

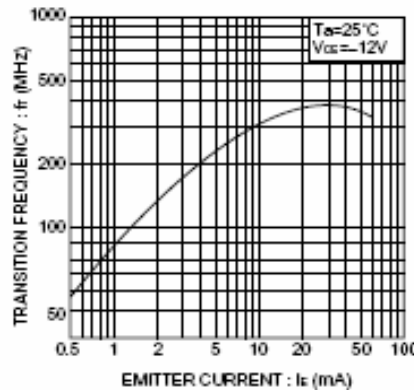


Fig.8 Gain bandwidth product vs. emitter current

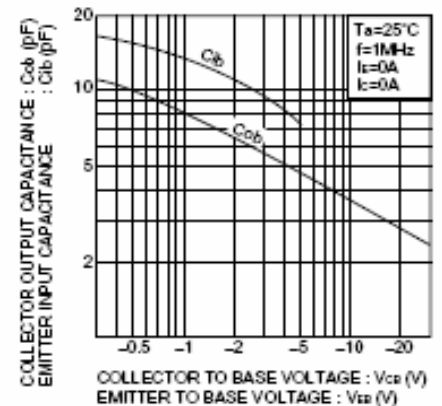


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

Package	Packing	Quantity	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92S	Bulk	1000pcs/BP	10000pcs	245×170×100	100,000pcs	525×375×270
TO-92S	Tape	3000pcs/TP	3000pcs	333×162×43	30,000pcs	350×340×250