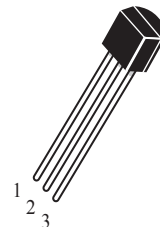


PNP General Purpose Transistors

(Pb) Lead(Pb)-Free

TO-92

1. EMITTER
2. BASE
3. COLLECTOR



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	-45	Vdc
Collector-Base Voltage	V _{CBO}	-50	Vdc
Emitter-Base Voltage	V _{EBO}	-5.0	Vdc
Collector Current	I _C	100	mAdc
Total Device Dissipation T _A =25°C	P _D	0.4	W
Junction Temperature	T _j	150	°C
Storage, Temperature	T _{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage (I _C = -1 mAdc, I _B =0)	V _{(BR)CEO}	-45	-	Vdc
Collector-Base Breakdown Voltage (I _C = -100uAdc, I _E =0)	V _{(BR)CBO}	-50	-	Vdc
Emitter-Base Breakdown Voltage (I _E = -100 uAdc, I _C =0)	V _{(BR)EBO}	-5.0	-	Vdc
Collector Cutoff Current (V _{CB} = -50 Vdc, I _E =0)	I _{CBO}	-	-0.05	uAdc
Emitter Cutoff Current (V _{EB} = -5.0Vdc, I _C =0)	I _{EBO}	-	-0.05	uAdc

S9015



Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted) (Continued)

Characteristics	Symbol	Min	Max	Unit
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On Characteristics

DC Current Gain ($I_C = -1\text{mA}_{dc}$, $V_{CE} = -5\text{V}_{dc}$)	h_{FE}	60	1000	-
Collector-Emitter Saturation Voltage ($I_C = -100\text{mA}_{dc}$, $I_B = -10\text{mA}_{dc}$)	$V_{CE(sat)}$	-	-0.3	Vdc
Base-Emitter Saturation Voltage ($I_C = -100\text{mA}_{dc}$, $I_B = -10\text{mA}_{dc}$)	$V_{BE(sat)}$	-	-1	Vdc
Transition Frequency ($I_C = -10\text{mA}_{dc}$, $V_{CE} = -5\text{V}_{dc}$, $f = 30\text{MHz}$)	f_T	150	-	MHz

CLASSIFICATION OF h_{FE}

Rank	A	B	C	D
Range	60-150	100-300	200-600	400-1000

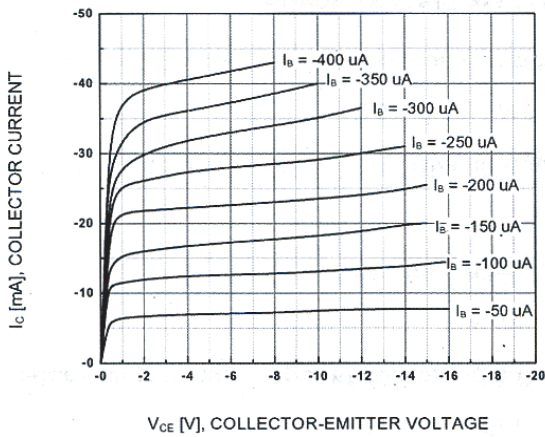


FIG.1 Static Characteristic

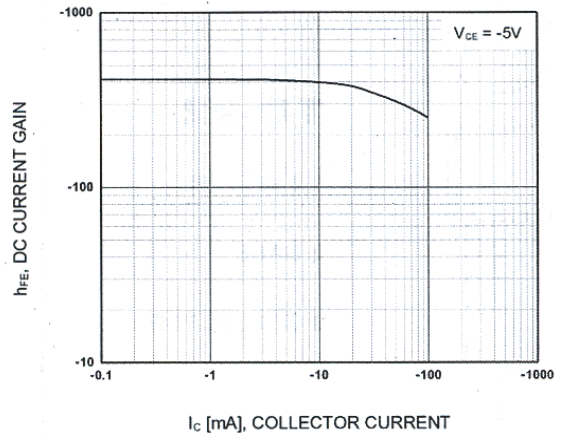
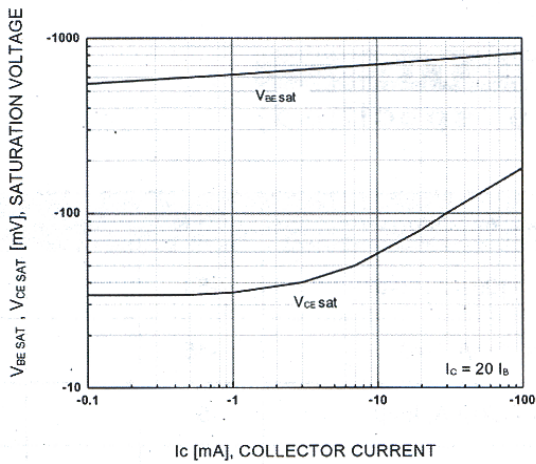


FIG.2 DC current Gain



**FIG.3 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**

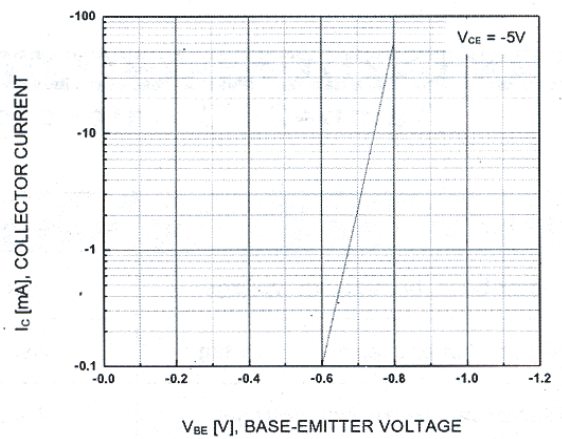


FIG.4 Base-Emitter On Voltage

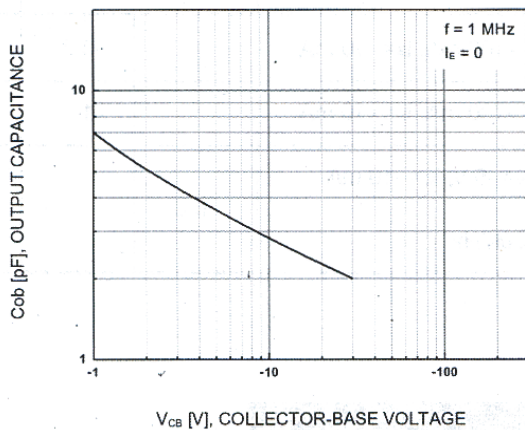


FIG.5 Collector Output Capacitance

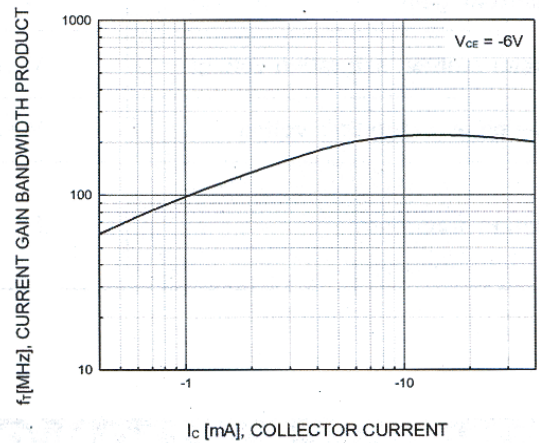
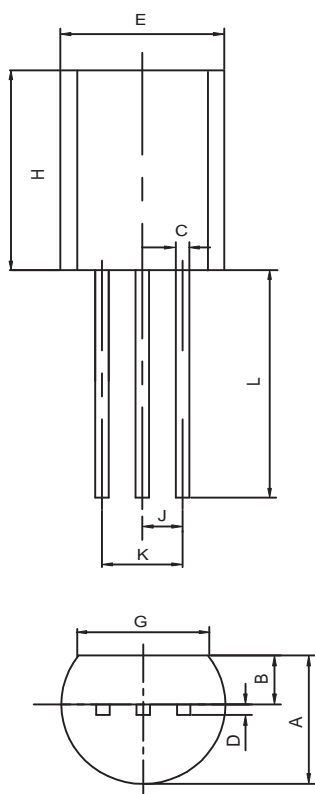


FIG.6 Current Gain Bandwidth Product

TO-92 Outline Dimensions

unit:mm



TO-92		
Dim	Min	Max
A	3.30	3.70
B	1.10	1.40
C	0.38	0.55
D	0.36	0.51
E	4.40	4.70
G	3.43	-
H	4.30	4.70
J	1.270TYP	
K	2.44	2.64
L	14.10	14.50