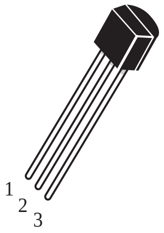
High-Voltage PNP Transistors

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}	-400	Vdc
Collector-Base Voltage	V_{CBO}	-400	Vdc
Emitter-Base VOltage	V_{EBO}	-5.0	Vdc
Collector Current	I_C	-200	mAdc
Total Device Dissipation T_A=25°C	P_D	0.625	W
Junction Temperature	T_j	150	°C
Storage, Temperature	Tstg	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage (I_C= 1.0 mAdc, I_B=0)	$V_{(BR)CEO}$	-400	-	Vdc
Collector-Base Breakdown Voltage (I_C= -100 uAdc, I_E=0)	$V_{(BR)CBO}$	-400	-	Vdc
Emitter-Base Breakdown Voltage (I_E= -100 uAdc, I_C=0)	$V_{(BR)EBO}$	-5.0	-	Vdc
Collector Cutoff Current (V_{CE}= -400 Vdc, I_B =0)	I_{CE0}	-	-5.0	uAdc
Collector Cutoff Current (V_{CB}= -400 Vdc, I_E=0)	I_{CBO}	-	-0.1	uAdc
Emitter Cutoff Current (V_{EB}= -4.0Vdc, I_C=0)	I_{EBO}	-	-0.1	uAdc

Electrical Characteristics (T_A=25 °C unless otherwise noted) (Countinued)

Characteristics	Symbol	Min	Max	Unit
On Characteristics				
DC Current Gain				
(I_C= -1.0 mAdc, V_{CE}=-10Vdc)	$H_{FE(1)}$	70	-	-
(I_C= -10 mAdc, V_{CE}= -10Vdc)	$H_{FE(2)}$	80	300	
(I_C= -100 mAdc, V_{CE}= -10Vdc)	$H_{FE(3)}$	60	-	
Collector-Emitter Saturation Voltage				
(I_C= -10 mAdc, I_B= -1.0 mAdc)	$V_{CE(sat)}$	-	-0.2	Vdc
(I_C= -50 mAdc, I_B= -5.0 mAdc)		-	-0.3	
Base-Emitter Saturation Voltage (I_C= -10 mAdc, I_B= -1.0 mAdc)	$V_{BE(sat)}$	-	-0.75	Vdc
Current-Gain-Bandwidth Product (I_C= 10 mAdc, V_{CE}= -20 Vdc, f=30MHz)	f_T	50	-	MHz

Typical Characteristics

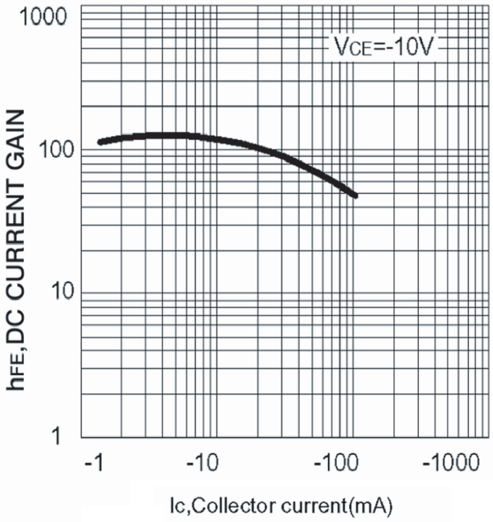


FIG1. DC CURRENT GAIN

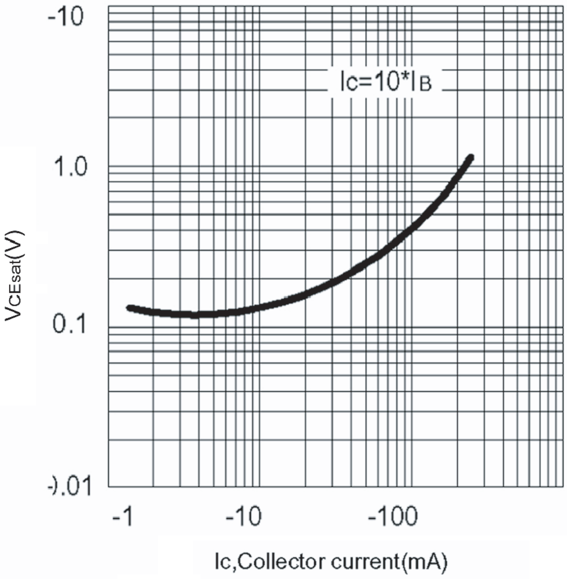


FIG2. COLLECTOR-EMITTER SATURATION VOLTAGE

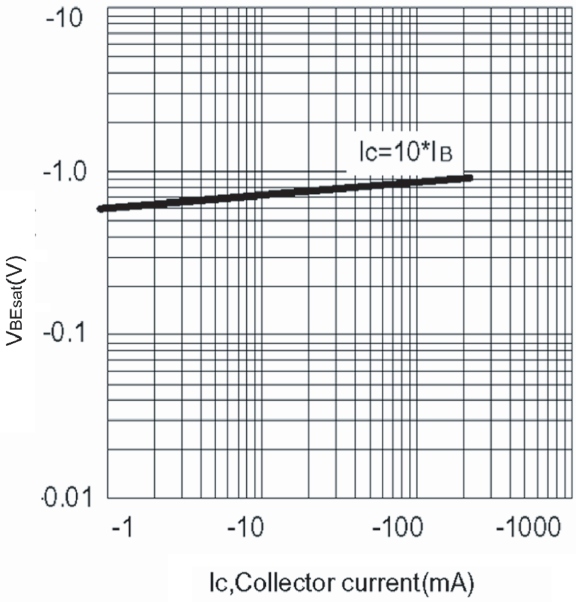
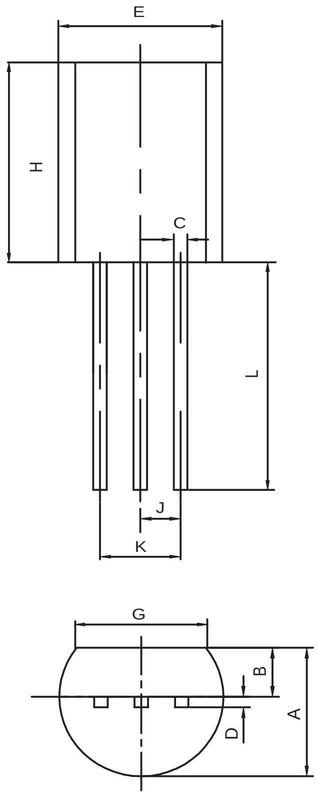


FIG3. BASE-EMITTER

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