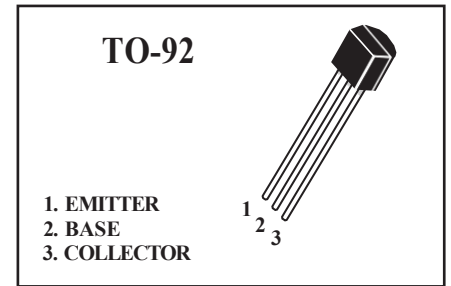




## NPN General Purpose Transistors

**Pb** Lead(Pb)-FreeMAXIMUM RATINGS( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Rating	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	25	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current-Continuous	$I_C$	1.5	A
Total Device Dissipation $T_A=25^{\circ}\text{C}$	$P_D$	1.0	W
Junction and Storage, Temperature	$T_J, T_{stg}$	-55 to +150	$^{\circ}\text{C}$

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

Characteristics	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage $I_C=100\mu\text{A}, I_E=0$	$V_{(BR)CB0}$	40	-	-	V
Collector-Emitter Breakdown Voltage $I_C=0.1\text{mA}, I_B=0$	$V_{(BR)CEO}$	25	-	-	V
Emitter Base Breakdown Voltage $I_E=100\mu\text{A}, I_C=0$	$V_{(BR)EBO}$	5	-	-	V
Collector cut-off current $V_{CB}=40\text{V}, I_E=0$	$I_{CBO}$	-	-	0.1	$\mu\text{A}$
Emitter cut-off current $V_{CE}=20\text{V}, I_E=0$	$I_{CEO}$	-	-	0.1	$\mu\text{A}$
Emitter cut-off current $V_{EB}=5\text{V}, I_C=0$	$I_{EBO}$	-	-	0.1	$\mu\text{A}$

**ON CHARACTERISTICS**

DC Current Gain $V_{CE}=1V, I_C=100mA$ $V_{CE}=1V, I_C=800mA$	$h_{FE(1)}$ $h_{FE(2)}$	85 40	-	400 -	-
Collector-Emitter Saturation Voltage $I_C=800mA, I_B=80mA$	$V_{CE(sat)}$	-	-	0.5	V
Base-Emitter Saturation Voltage $I_C=800mA, I_B=80mA$	$V_{BE(sat)}$	-	-	1.2	V
Base-Emitter ON Voltage $V_{CE}=1V, I_C=10mA$	$V_{BE(ON)}$	-	-	1	V

**DYNAMIC CHARACTERISTICS**

Transition frequency $V_{CE}=10V, I_C=50mA, f=30MHz$	$f_T$	100	-	-	MHz
---	-------	-----	---	---	-----

**CLASSIFICATION OF  $h_{FE(2)}$** 

Rank	B	C	D	E
Range	85-160	120-200	160-300	300-400

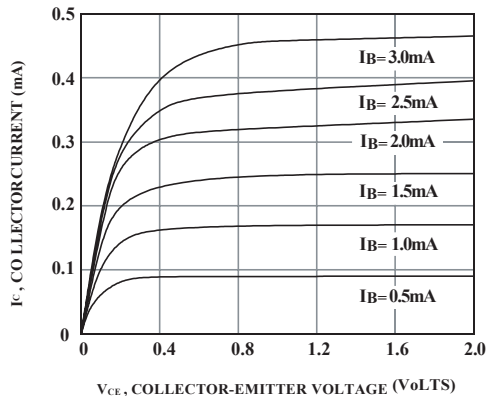


FIG.1 Static Characteristic

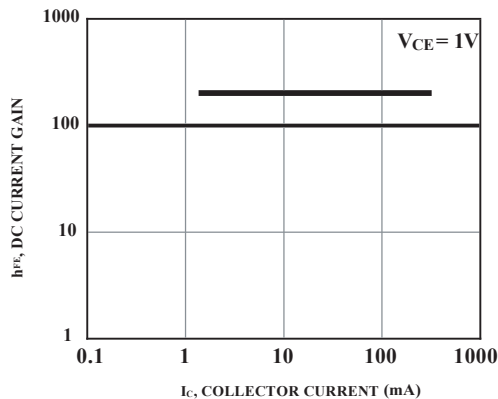


FIG.2 DC Current Gain

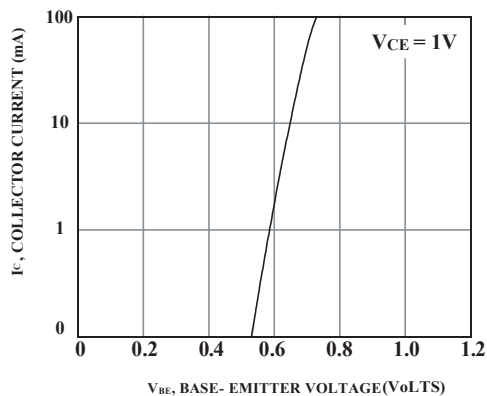


FIG.3 Base-Emitter On Voltage

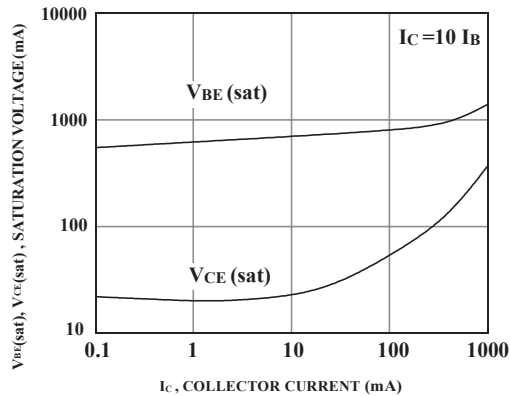


FIG.4 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

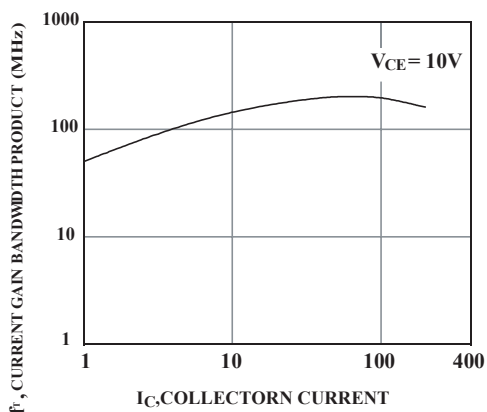


FIG.5 Current Gain Bandwidth Product

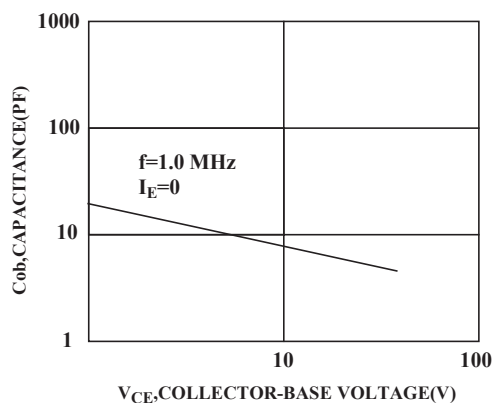
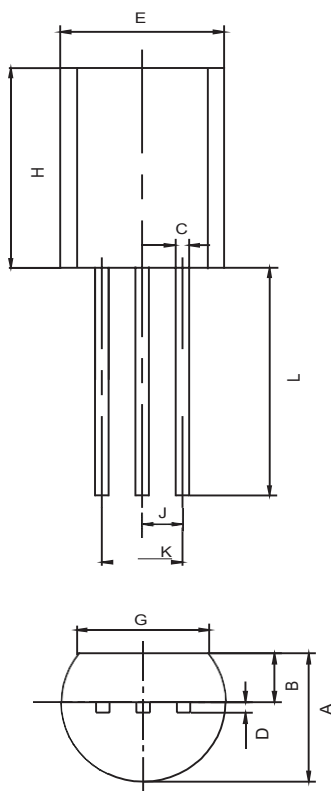


FIG.6 Collector Output Capacitance



### 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

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu Weida Semiconductor Co., Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu Weida Semiconductor Co., Ltd complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu Weida Semiconductor Co., Ltd assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.