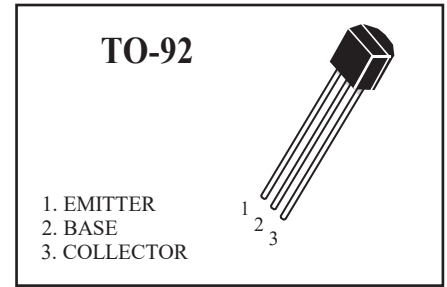




NPN General Purpose Transistors

 Lead(Pb)-Free



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	25	V _{dc}
Collector-Base Voltage	V _{CBO}	40	V _{dc}
Emitter-Base Voltage	V _{EBO}	5.0	V _{dc}
Collector Current	I _C	500	mA _{dc}
Total Device Dissipation TA=25 C	P _D	0.625	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 = 0.1 mA _{dc} , I _B =0)	V _{(BR)CEO}	25	-	V _{dc}
Collector-Base Breakdown Voltage (I _C = 100 μA _{dc} , I _E =0)	V _{(BR)CBO}	40	-	V _{dc}
Emitter-Base Breakdown Voltage (I _E = 100 μA _{dc} , I _C =0)	V _{(BR)EBO}	5.0	-	V _{dc}
Collector Cutoff Current (V _{CE} = 20 V _{dc} , I _B =0)	I _{CE0}	-	0.1	μA _{dc}
Collector Cutoff Current (V _{CB} = 40 V _{dc} , I _E =0)	I _{CBO}	-	0.1	μA _{dc}
Emitter Cutoff Current (V _{EB} = 3.0V _{dc} , I _C =0)	I _{EBO}	-	0.1	μA _{dc}

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

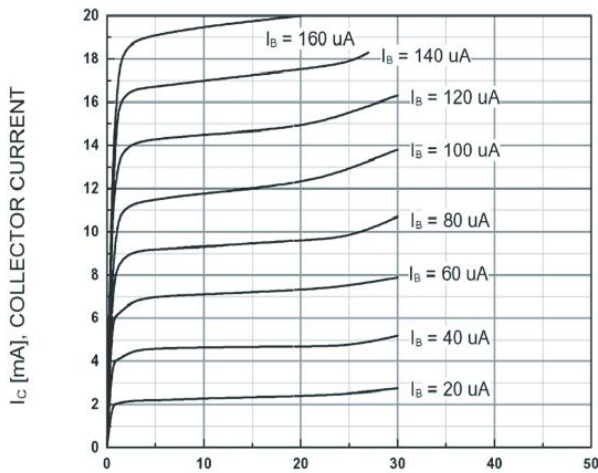
Characteristics	Symbol	Min	TYP	Max	Unit
DC Current Gain ($I_C = 50\text{ Adc}$, $V_{CE} = 1.0\text{ Vdc}$)	$h_{FE(1)}$	85	-	300	-
DC Current Gain ($I_C = 500\text{ mAdc}$, $V_{CE} = 1.0\text{ Vdc}$)	$h_{FE(2)}$	50	-	-	-
Collector-Emitter Saturation Voltage ($I_C = 500\text{ Adc}$, $I_B = 50\text{ mAdc}$)	$V_{CE(sat)}$	-	-	0.6	Vdc
Base-Emitter Saturation Voltage ($I_C = 500\text{ mAdc}$, $I_B = 50\text{ mAdc}$)	$V_{BE(sat)}$	-	-	1.2	Vdc
Current-Gain-Bandwidth Product ($I_C = 20\text{ mAdc}$, $V_{CE} = 6.0\text{ Vdc}$, $f = 30\text{ MHz}$)	f_T	150	-	-	MHz

Classification of $h_{FE(1)}$

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

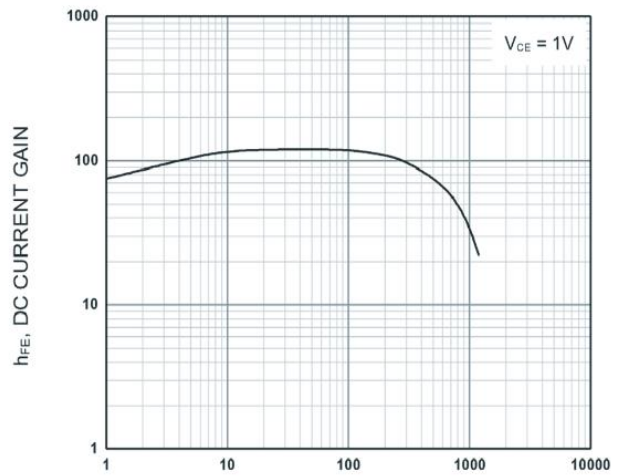


Typical Characteristics



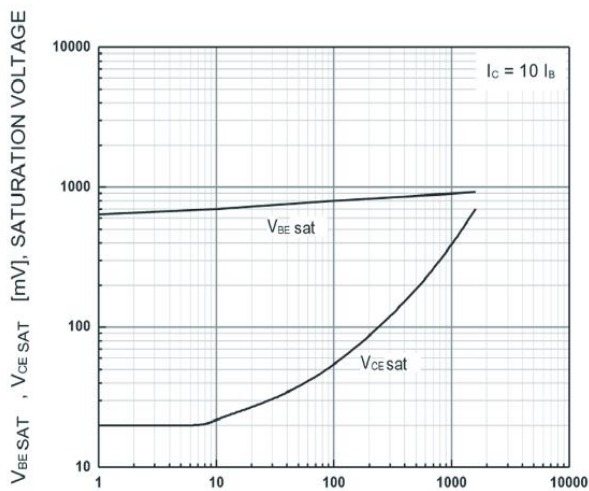
V_{CE} [V], COLLECTOR-EMITTER VOLTAGE

Static Characteristic



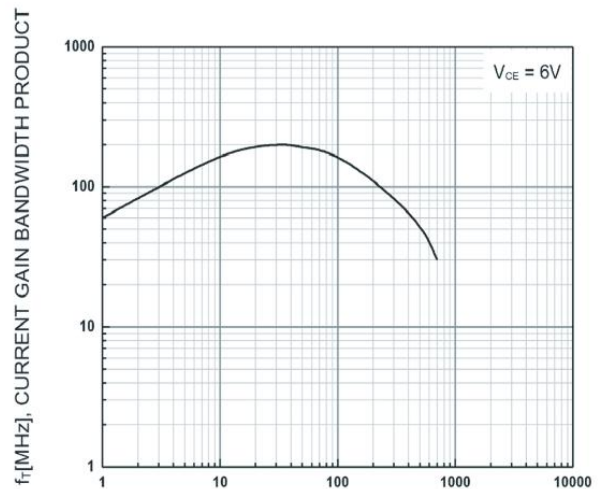
I_c [mA], COLLECTOR CURRENT

DC current Gain



I_c [mA], COLLECTOR CURRENT

Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage



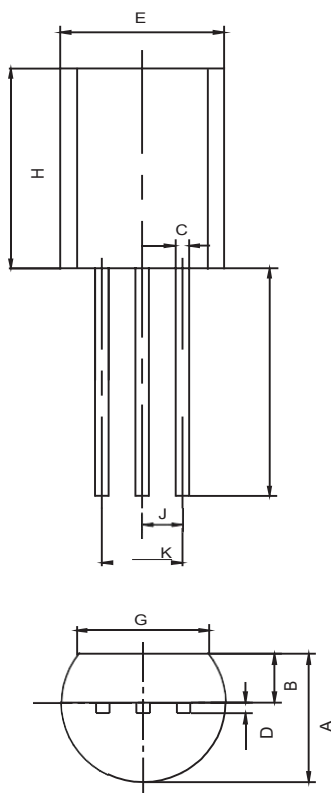
I_c [mA], COLLECTOR CURRENT

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

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