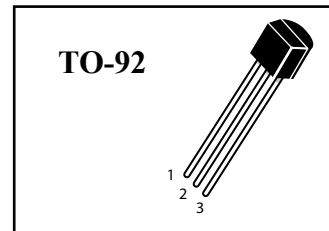
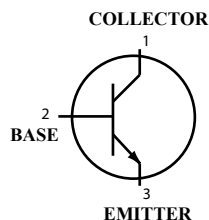


NPN General Purpose Transistor

 Lead(Pb)-Free



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

Rating	Symbol	BC337	BC338	Unit
Collector-Base voltage	V_{CBO}	50	30	V
Collector-Emitter voltage	V_{CEO}	45	25	V
Emitter-Base voltage	V_{EBO}	5.0	5.0	V
Collector Current Continuous	I_C	800		mA
Total Device Dissipation Alumina Substrate, $T_A=25^\circ\text{C}$	P_D	625		mW/ $^\circ\text{C}$
Operating Junction Temperature Range	T_J	-55 to +150		$^\circ\text{C}$
Storage Junction Temperature Range	T_{stg}	-55 to +150		$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Base Breakdown Voltage $I_C=100\mu\text{A}$, $I_E=0$	BC337 BC338	$V_{(BR)CBO}$	50 30	-	-	V
Collector-Emitter Breakdown Voltage $I_C=10\text{mA}$, $I_B=0$	BC337 BC338	$V_{(BR)CEO}$	45 25	-	-	V
Emitter-Base Breakdown Voltage $I_C=10\mu\text{A}$, $I_C=0$	BC337 BC338	$V_{(BR)EBO}$	5.0	-	-	Vdc

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

Characteristics	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector Cut-off Current $V_{CE}=40\text{V}, I_B=0$ $V_{CE}=20\text{V}, I_B=0$	BC337 BC338	I_{CEO}	-	-	0.2	μA
Collector Cut-off Current $V_{CB}=45\text{V}, I_E=0$ $V_{CB}=25\text{V}, I_E=0$	BC337 BC338	I_{CBO}	-	-	0.1	μA
Emitter Cutoff Current $V_{EB}=4.0\text{V}, I_C=0$		I_{EBO}	-	-	0.1	μA

ON CHARACTERISTICS

DC Current Gain $V_{CE}=1\text{V}, I_C=100\text{mA}$ $V_{CE}=1\text{V}, I_C=300\text{mA}$	h_{FE1} h_{FE2}	100 60	-	630 -	-
Collector-Emitter Saturation Voltage $I_C=500\text{mA}, I_B=50\text{mA}$	$V_{CE(sat)}$	-	-	0.7	V
Base-Emitter Saturation Voltage $I_C=500\text{mA}, I_B=50\text{mA}$	$V_{BE(sat)}$	-	-	1.2	V
Transition frequency $V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	f_T	210	-	-	MHz

h_{FE} Classification

Classification	16	25	40
h_{FE1}	100 ~ 250	160 ~ 400	250 ~ 630
h_{FE2}	60-	100-	170-

Typical Characteristics

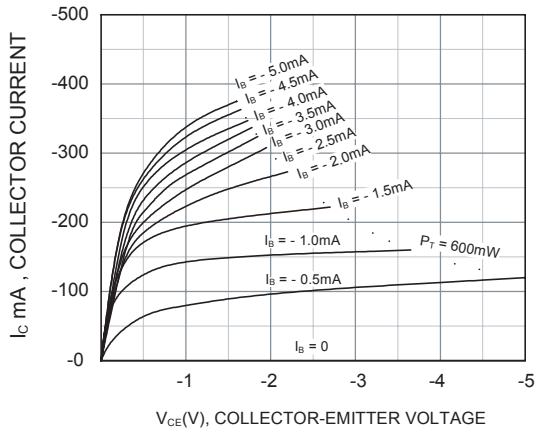


Figure 1. Static Characteristic

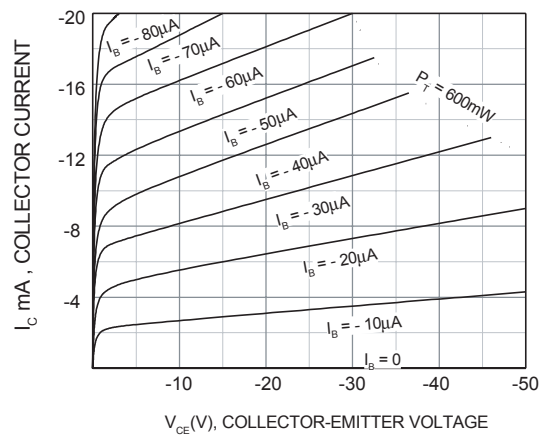


Fig.2 Static Characteristic

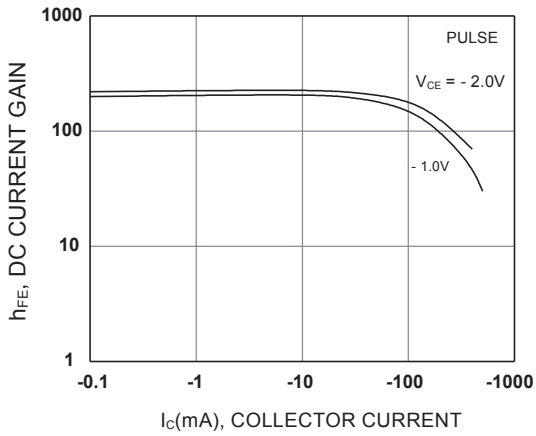


Figure 3. DC current Gain

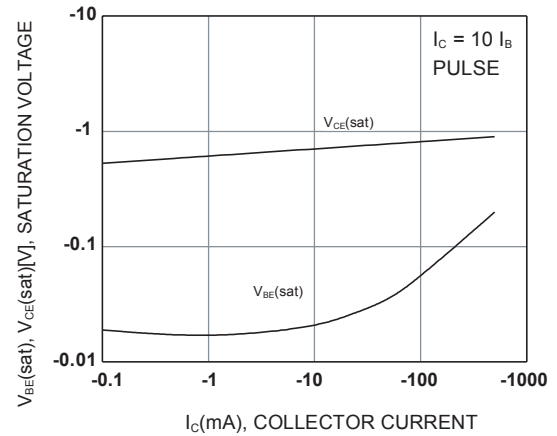


Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

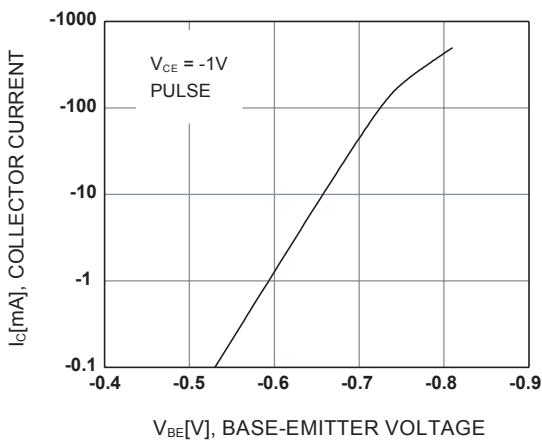


Fig.5 Base-Emitter On Voltage

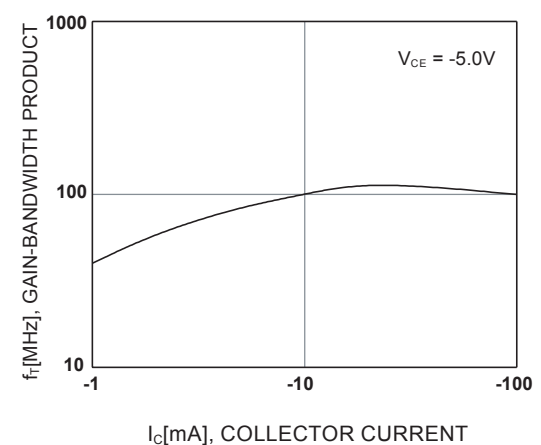
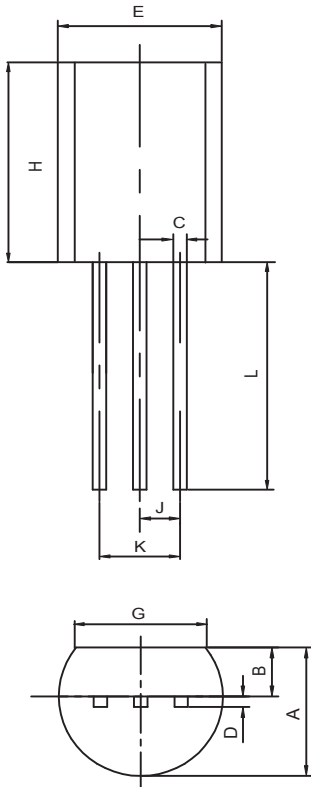


Fig.6 Gain Bandwidth Product

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