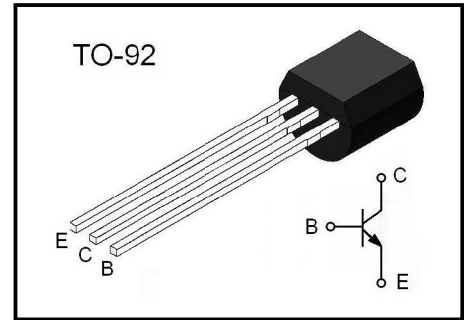


NPN Plastic-Encapsulate Transistors

Pre-Amplifier, Low Level & Low Noise

- High total power dissipation. ($P_T = 450\text{mW}$)
- High h_{FE} and good linearity
- Complementary to S9015



Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	50	V
Collector-Emitter Voltage	BV_{CEO}	45	V
Emitter-Base Voltage	BV_{EBO}	5	V
Collector Current	I_C	100	mA
Collector Power Dissipation	P_C	450	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

Electrical Characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV_{CBO}	$I_C=100\mu\text{A}, I_E=0$	50			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C=1\text{mA}, I_B=0$	45			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=50\text{V}, I_E=0$			50	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			50	nA
DC current gain	h_{FE}	$V_{EB}=5\text{V}, I_C=1\text{mA}$	60		1000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=5\text{mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=5\text{mA}$			1.0	V
Transition frequency	f_T	$V_{CE}=5\text{V}, I_C=10\text{mA}$	150	250		MHz

h_{FE} Classification

Classification	S9014-A	S9014-B	S9014-C	S9014-D
h_{FE}	60-150	100-300	200-600	400-1000

Typical Characteristics

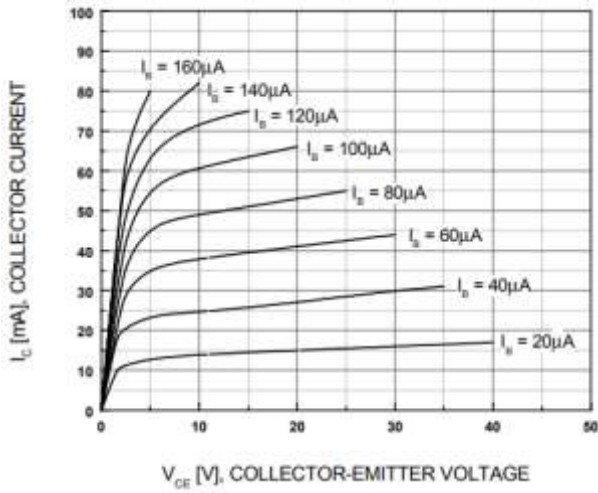


Figure 1. Static Characteristic

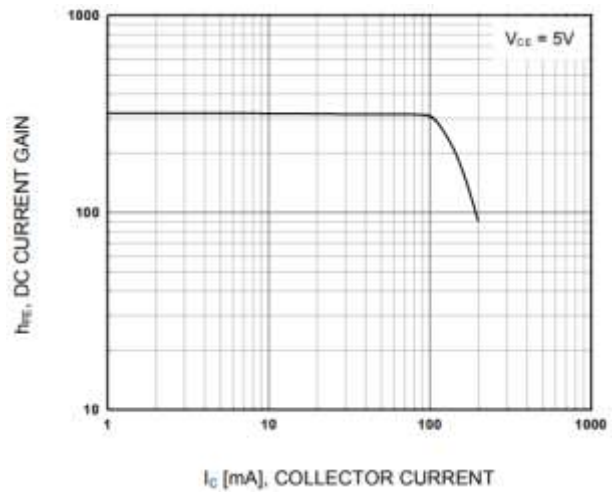


Figure 2. DC current Gain

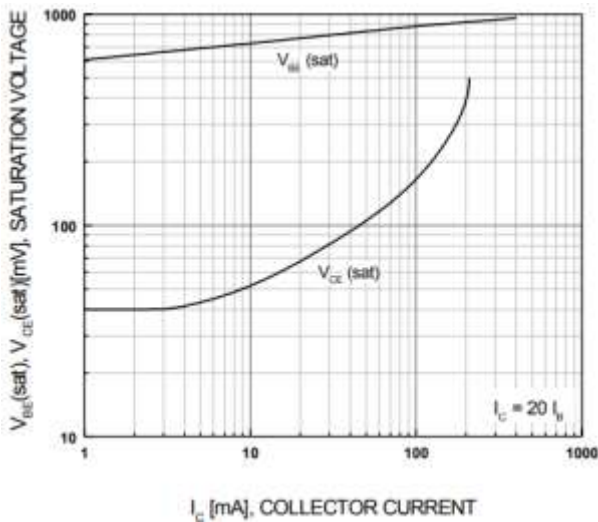


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

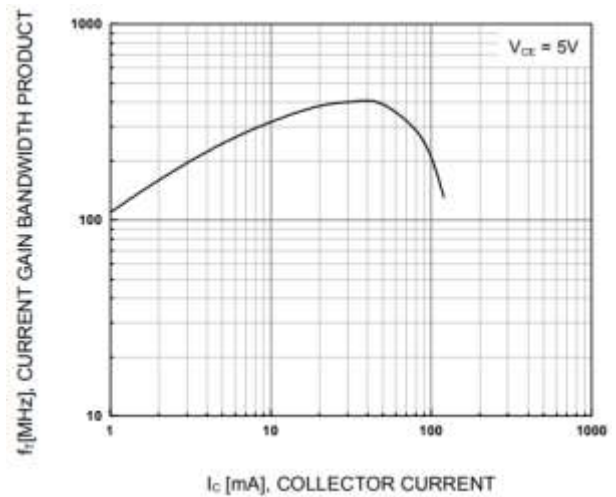


Figure 4. Current Gain Bandwidth Product

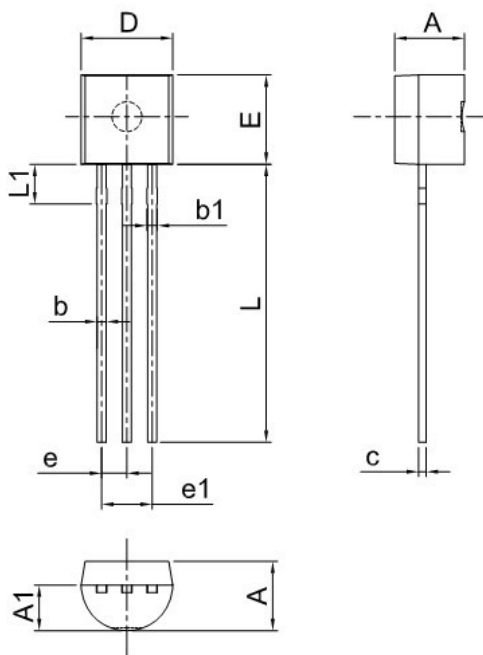
Ordering information

Package	Packing Description	Base Quantity
TO-92	Bulk	1000pcs/Bag
	Tape	2000pcs/Box

Package Dimensions

TO-92

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.70	0.130	0.146
A1	2.30	2.70	0.091	0.106
b	0.40	0.50	0.016	0.020
b1	0.50	0.70	0.020	0.028
c	0.35	0.45	0.014	0.018
D	4.45	4.70	0.175	0.185
E	4.40	4.65	0.173	0.183
e	1.17	1.37	0.046	0.054
e1	2.34	2.64	0.092	0.104
L	13.50	14.50	0.531	0.571
L1	1.80	2.20	0.071	0.087



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