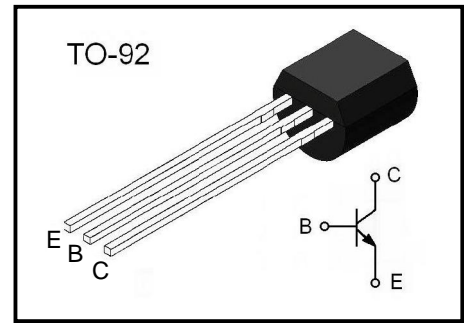


**NPN Plastic-Encapsulate Transistors**

**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

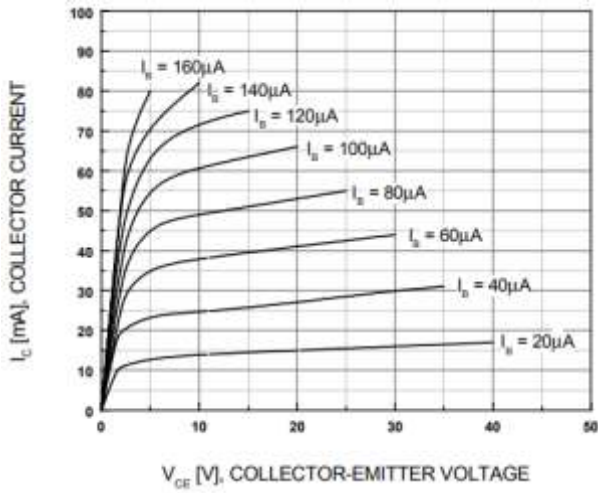


Figure 1. Static Characteristic

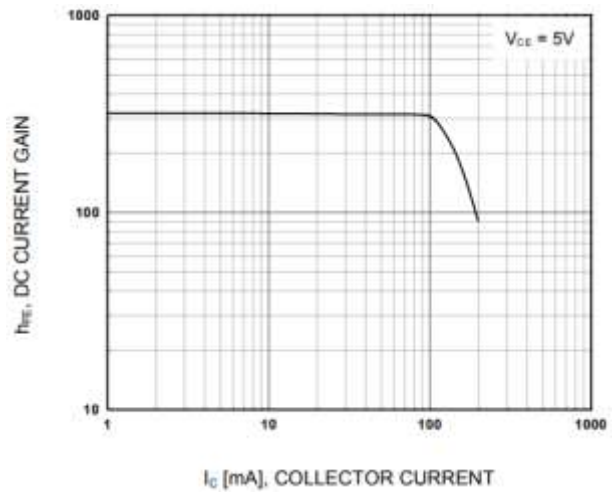


Figure 2. DC current Gain

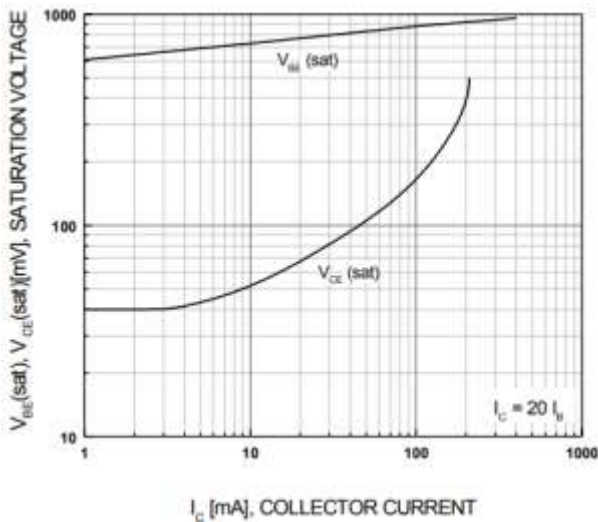


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

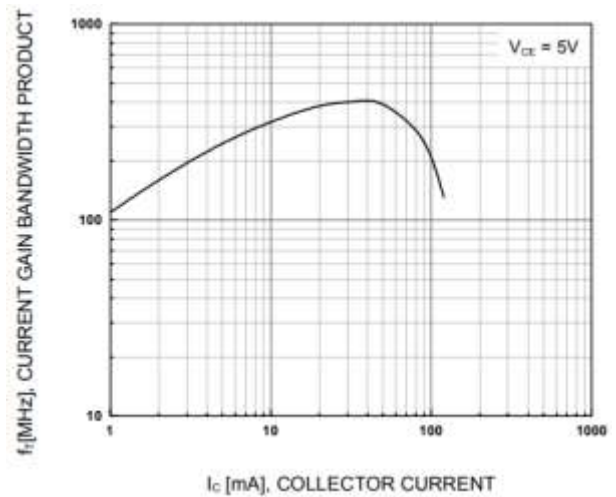


Figure 4. Current Gain Bandwidth Product

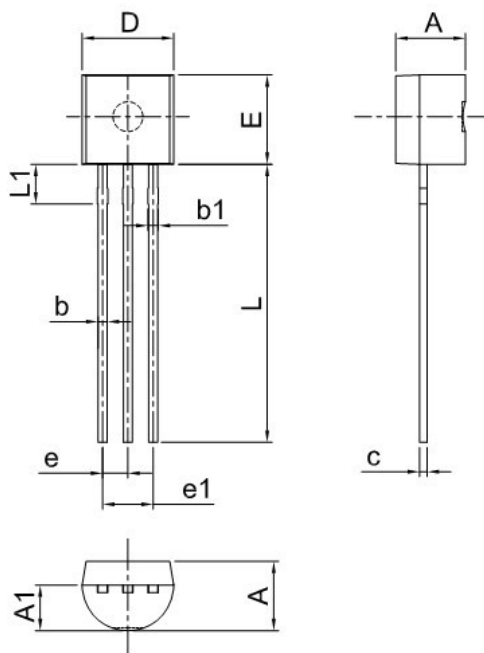
**Ordering information**

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

**Package Dimensions**

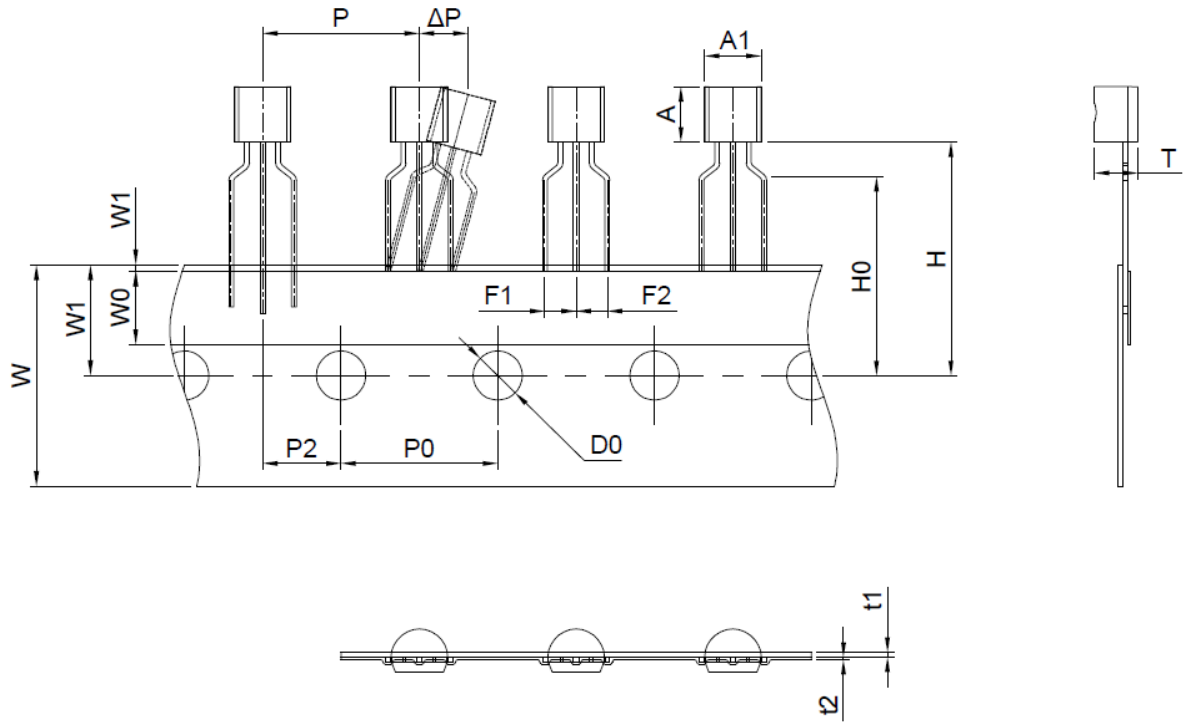
**TO-92**

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

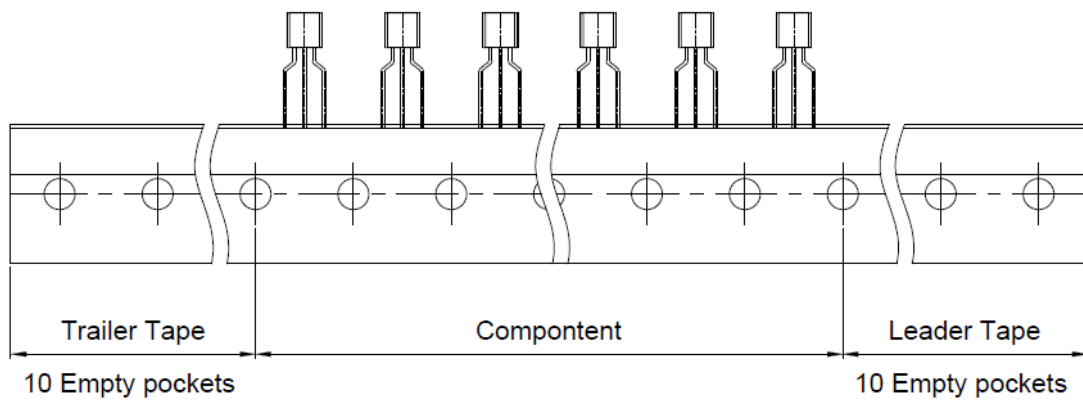


Taping Dimensions

TO-92



Dimensions are in millimeter								
A	A1	T	P	P0	P2	F1	F2	W
4.6	4.6	3.5	12.7	12.7	6.35	2.54	2.54	18.0
W0	W1	W2	H	H0	D0	t1	T2	ΔP
6.0	9.0	1.0Max	19.0	18.0	4.0	0.4	0.2	0



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