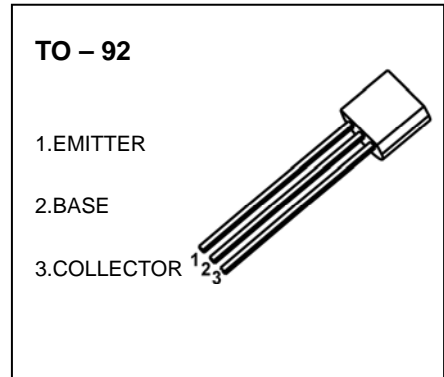


## TO-92 Plastic-Encapsulate Transistors

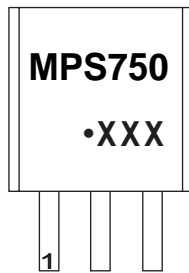
### MPS750 TRANSISTOR (PNP)

#### FEATURES

- General Purpose Amplifier

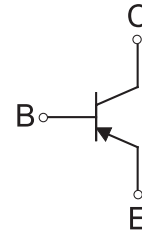


#### MARKING



MPS750=Device code  
 Solid dot = Green molding compound device,  
 if none, the normal device  
 XXX=Code

#### Equivalent Circuit



#### ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
MPS750	TO-92	Bulk	1000pcs/Bag
MPS750-TA	TO-92	Tape	2000pcs/Box

#### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	-60	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-40	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current -Continuous	-2	A
P <sub>C</sub>	Collector Power Dissipation	625	mW
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	200	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150	°C

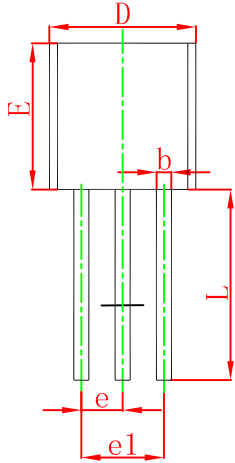
## ELECTRICAL CHARACTERISTICS

$T_a=25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -0.1\text{mA}, I_E = 0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C = -10\text{mA}, I_B = 0$	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -0.01\text{mA}, I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -60\text{V}, I_E = 0$			-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4\text{V}, I_C = 0$			-0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}^*$	$V_{CE} = -2\text{V}, I_C = -50\text{mA}$	75			
	$h_{FE(2)}^*$	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	75		400	
	$h_{FE(3)}^*$	$V_{CE} = -2\text{V}, I_C = -1\text{A}$	75			
	$h_{FE(4)}^*$	$V_{CE} = -2\text{V}, I_C = -2\text{A}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)(1)}^*$	$I_C = -2\text{A}, I_B = -200\text{mA}$			-0.5	V
	$V_{CE(sat)(2)}^*$	$I_C = -1\text{A}, I_B = -100\text{mA}$			-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C = -1\text{A}, I_B = -100\text{mA}$			-1.2	V
Base-emitter voltage	$V_{BE}^*$	$I_C = -1\text{A}, V_{CE} = -2\text{V}$			-1.0	V
Transition frequency	$f_T$	$V_{CE} = -5\text{V}, I_C = -50\text{mA}, f = 100\text{MHz}$	75			MHz

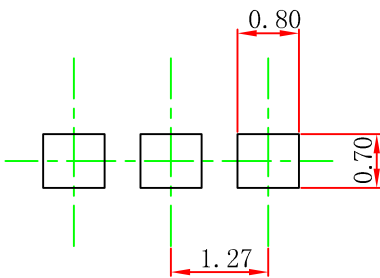
\*Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2.0\%$ .

## TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

## TO-92 Suggested Pad Layout



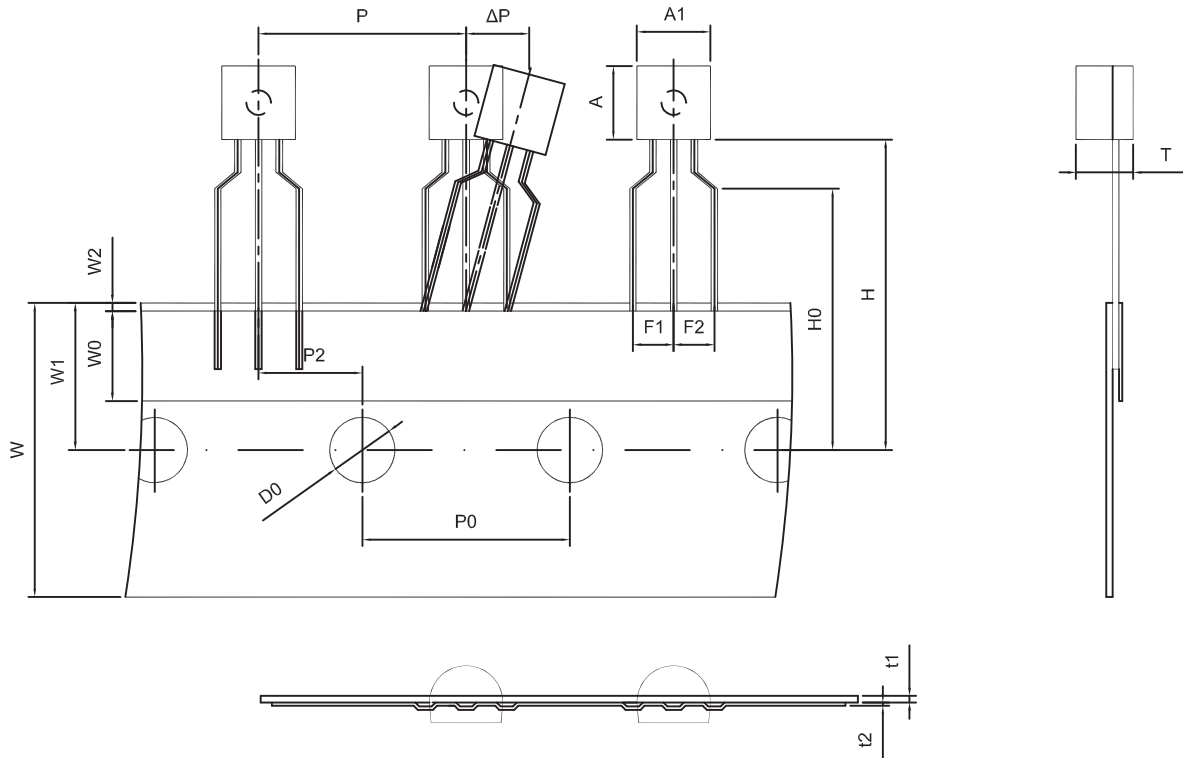
### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

### NOTICE

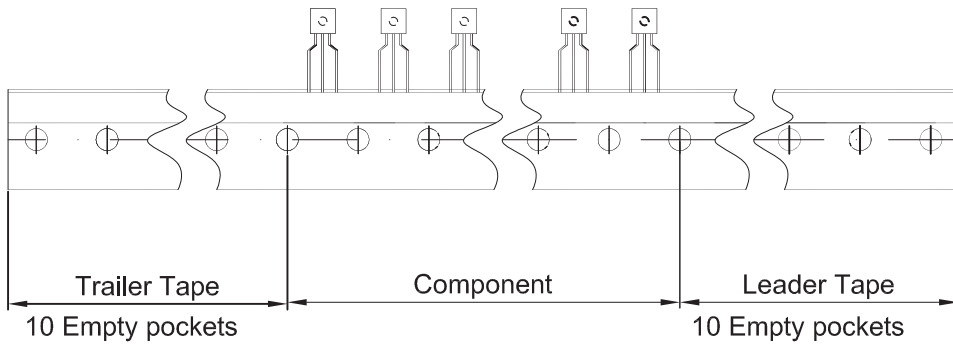
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# TO-92 Tape and Reel



Dimensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	$\Delta P$
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250