

TO-92 Plastic-Encapsulate Transistors

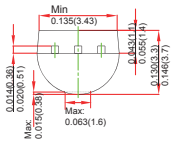
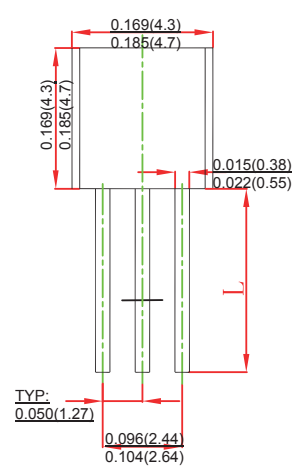
FEATURES

- General Purpose Amplifier
- TRANSISTOR (NPN)

MECHANICAL DATA

- Case style: TO-92 molded plastic
- Mounting position: any

TO-92



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Alue	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current -Continuous	0.5	A
P_D	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	200	°C /W
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55 ~ +150	°C

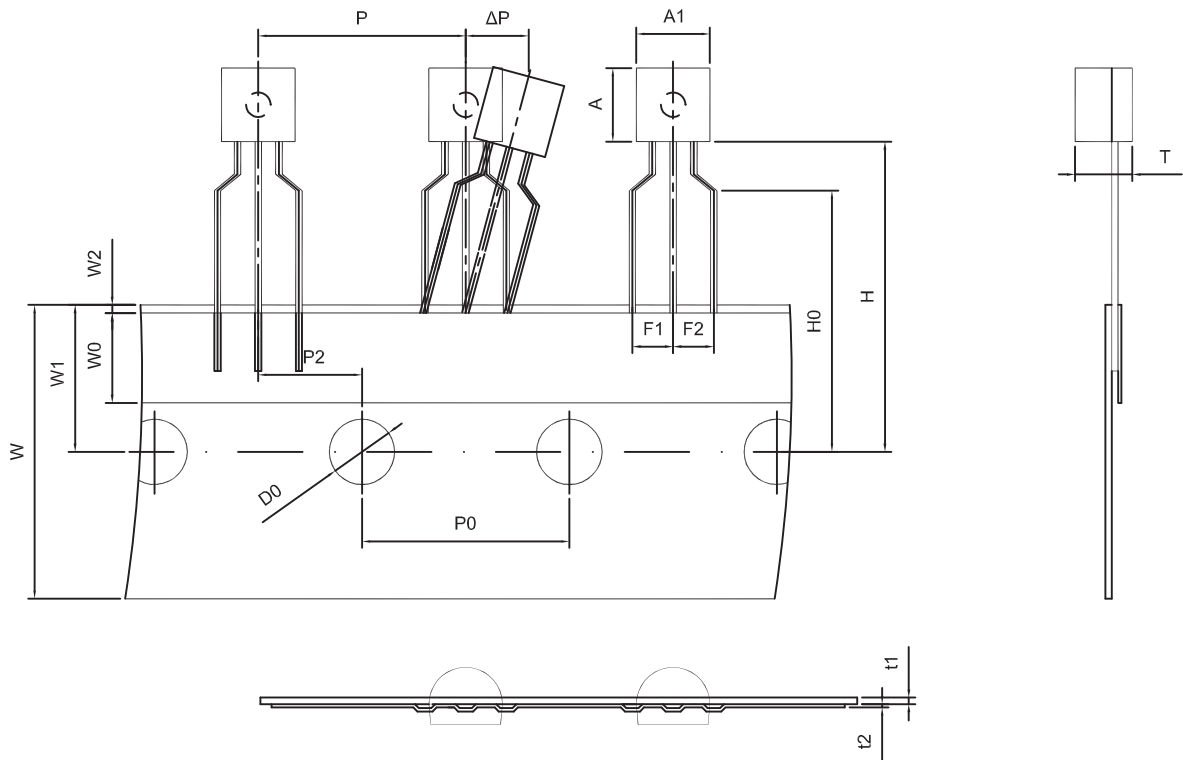
ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
MPSA05	TO-92	Bulk	1000pcs/Bag
MPSA05-TA	TO-92	Tape	2000pcs/Box

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1mA, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1mA, I_C=0$	4			V
Collector cut-off current	I_{CBO}	$V_{CB}=60V, I_E=0$			0.1	KA
Collector cut-off current	I_{CEO}	$V_{CE}=60V, I_B=0$			0.1	KA
Emitter cut-off current	I_{EBO}	$V_{EB}=3V, I_C=0$			1	KA
DC current gain	$h_{FE(1)}$	$V_{CE}=1.0V, I_C=100mA$	100			
	$h_{FE(2)}$	$V_{CE}=1.0V, I_C=10mA$	100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$			0.25	V
Base-emitter voltage	V_{BE}	$I_C=100mA, V_{CE}=1.0V$			1.2	V
Transition frequency	f_T	$V_{CE}=2.0V, I_C=10mA, f=100MHz$	100			MHz

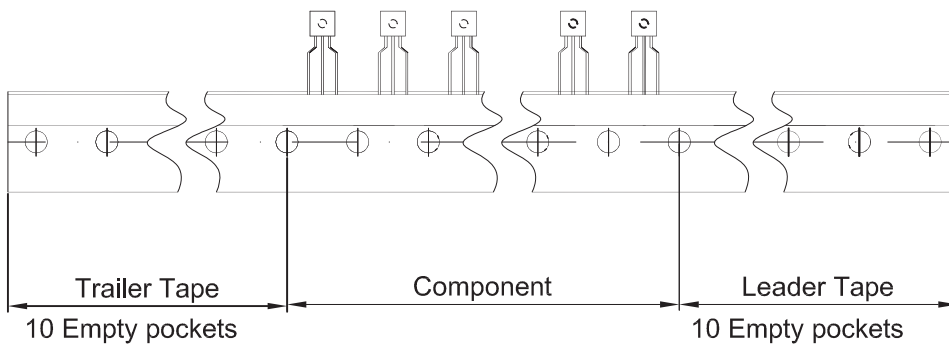
Marking	MPSA05
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TO-92 PACKAGE TAPEING DIMENSION



Dimiensions 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	ΔP
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