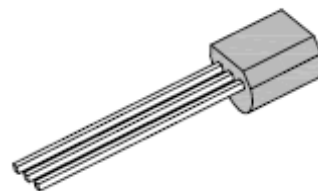


Small Signal High Voltage Transistors (NPN)

Features

- This device is designed for application as a video output to drive color CRT and other high voltage applications.
- RoHS Compliance



Mechanical Data

TO-92



Case:	TO-92, Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	0.18 gram

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

Symbol	Description	MPSA44	MPSA45	Unit
V_{CEO}	Collector-Emitter Voltage	400	350	V
V_{CBO}	Collector-Base Voltage	500	400	V
V_{EBO}	Emitter-Base Voltage	6.0		V
I_C	Collector Current Continuous	300		mA
P_D	Power Dissipation at $T_A=25^{\circ}C$	625		mW
	Derate above $25^{\circ}C$	5.0		mW/ $^{\circ}C$
P_D	Power Dissipation at $T_C=25^{\circ}C$	1.5		W
	Derate above $25^{\circ}C$	12		mW/ $^{\circ}C$
R_{θJA}	Thermal Resistance Junction to Ambient Air	200		$^{\circ}C/W$
R_{θJC}	Thermal Resistance Junction to Case	83.3		$^{\circ}C/W$
T_J, T_{STG}	Operation and Storage Junction Temperature Range	-55 to +150		$^{\circ}C$

Small Signal High Voltage Transistors (NPN)

MPSA44/MPSA45

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	MPSA44		MPSA45		Unit	Conditions
		Min.	Max.	Min.	Max.		
V_{(BR)CBO}	Collector-Base Breakdown Voltage	500	-	400	-	V	I _C =100μA, I _E =0
V_{(BR)CES}	Collector-Emitter Breakdown Voltage	500	-	400	-	V	I _C =100μA, V _{BE} =0
V_{(BR)CEO}	Collector-Emitter Breakdown Voltage	400	-	350	-	V	I _C =1mA, I _B =0
V_{(BR)EBO}	Emitter-Base Breakdown Voltage	6.0	-	6.0	-	V	I _E =10μA, I _C =0
V_{CE(sat)} *	Collector Emitter Saturation Voltage	-	0.40	-	0.40	V	I _C =1mA, I _B =0.1mA
		-	0.50	-	0.50	V	I _C =10mA, I _B =1mA
		-	0.75	-	0.75	V	I _C =50mA, I _B =5mA
V_{BE(sat)} *	Base Emitter Saturation Voltage	-	0.75	-	0.75	V	I _C =10mA, I _B =1mA
I_{CBO}	Collector Cut-Off Current	-	100	-	100	nA	
		V _{CB} =400V, I _E =0		V _{CB} =320V, I _E =0			
I_{CES}	Collector Cut-Off Current	-	500	-	500	nA	
		V _{CB} =400V, V _{BE} =0		V _{CB} =320V, V _{BE} =0			
I_{EBO}	Emitter Cut-Off Current	-	100	-	100	nA	V _{EB} =4V, I _C =0
h_{FE} *	D.C. Current Gain	40	-	40	-		V _{CE} =10V, I _C =1mA
		50	200	50	200		V _{CE} =10V, I _C =10mA
		45	-	45	-		V _{CE} =10V, I _C =50mA
		40	-	40	-		V _{CE} =10V, I _C =100mA
C_{OB}	Output Capacitance	-	7	-	7	pF	V _{CB} =20V, I _E =0 f=1MHz
C_{IB}	Input Capacitance	-	130	-	130	pF	V _{EB} =0.5V, I _C =0 f=1MHz
h_{fe}	Small Signal Current Gain	2	-	2	-		V _{CE} =10V, I _C =10mA, f=10MHz

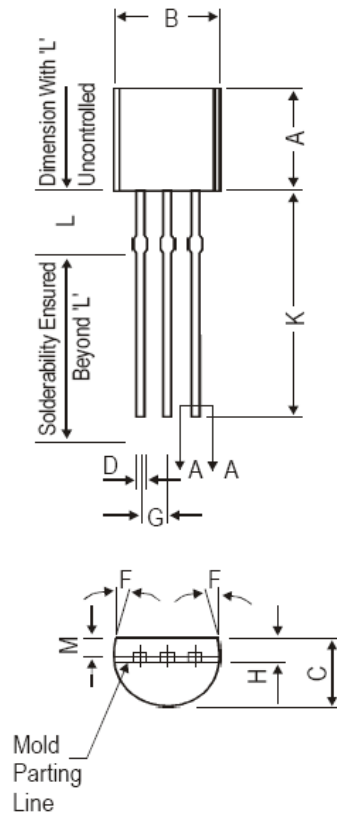
*Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%

Small Signal High Voltage Transistors (NPN)

MPSA44/MPSA45

Dimensions in mm

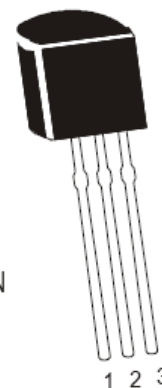
TO-92



DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5 DEG	
G	1.14	1.40
H	1.20	1.40
K	12.70	—
L	1.982	2.082
M	1.03	1.20

PIN CONFIGURATION

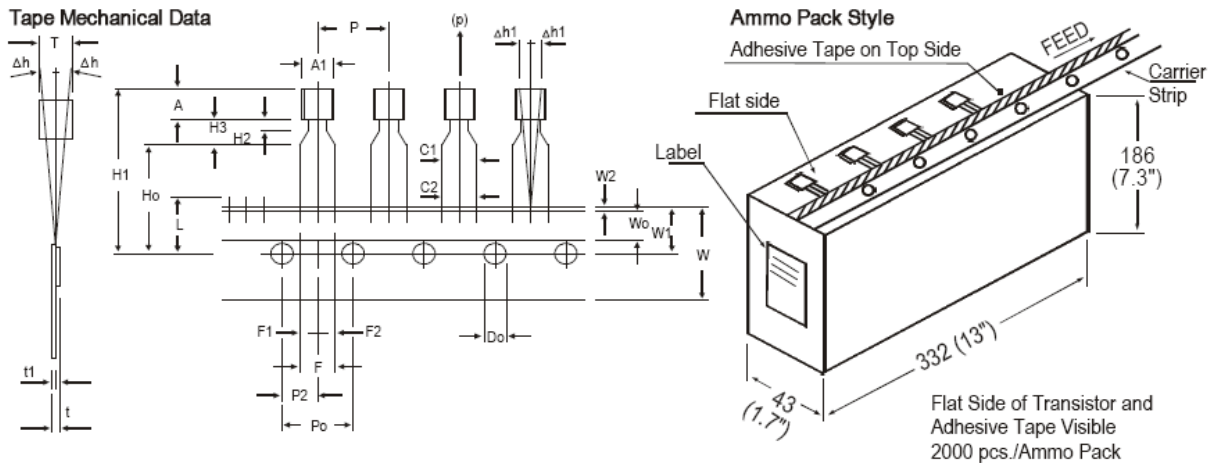
1. EMITTER
2. BASE
3. COLLECTOR



Small Signal High Voltage Transistors (NPN)

MPSA44/MPSA45

Packing Information in mm



All dimensions are in mm

ITEM	SYMBOL	SPECIFICATION			
		MIN.	NOM.	MAX.	TOL.
BODY WIDTH	A1	4.0		4.8	
BODY HEIGHT	A	4.8		5.2	
BODY THICKNESS	T	3.9		4.2	
PITCH OF COMPONENT	P		12.7		± 1.0
*1 FEED HOLE PITCH	Po		12.7		± 0.3
*2 FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		± 0.4
DISTANCE BETWEEN OUTER LEADS	F		5.08		+ 0.6 - 0.2
*3 COMPONENT ALIGNMENT SIDE VIEW	Δh		0	1.0	
*4 COMPONENT ALIGNMENT FRONT VIEW	Δh1		0	1.3	
TAPE WIDTH	W		18		± 0.5
HOLD-DOWN TAPE WIDTH	W0		6		± 0.2
HOLE POSITION	W1		9		+ 0.7 - 0.5
HOLD-DOWN TAPE POSITION	W2		0.5		± 0.2
LEAD WIRE CLINCH HEIGHT	Ho		16		± 0.5
COMPONENT HEIGHT	H1			23.25	
LENGTH OF SNIPPED LEADS	L			11.0	
FEED HOLE DIAMETER	Do		4		± 0.2
*5 TOTAL TAPE THICKNESS	t			1.2	
LEAD - TO - LEAD DISTANCE	F1, F2		2.54		+ 0.4 - 0.1
STAND OFF	H2	0.45		1.45	
CLINCH HEIGHT	H3			3.0	
LEAD PARALLELISM	C1 - C2			0.22	
PULL - OUT FORCE	(p)	6N			

NOTES

1. Maximum alignment deviation between leads will not be greater than 0.2mm.
2. Maximum non-cumulative variation between tape feed holes shall not exceed 1 mm in 20 pitches.
3. Holddown tape will not exceed beyond the edge(s) of carrier tape and there shall be no exposure of adhesive.
4. There will be no more than three (3) consecutive missing components in a tape.
5. A tape trailer, having at least three feed holes are provided after the last component in a tape.
6. Splices should not interfere with the sprocket feed holes.

REMARKS

- *1 Cumulative pitch error 1.0 mm/20 pitch
 *2 To be measured at bottom of clinch
 *3 At top of body
 *4 At top of body
 *5 t1 0.3 – 0.6 mm

Small Signal High Voltage Transistors (NPN)

MPSA44/MPSA45

Packing Quantity Information:

Package	Quantity	PCS per Inner Box	PCS per Carton
Bulk	1000/poly bag	5000	80000
Ammo Pack	2000/ammo box	2000	32000

Carton Size Information:

Package	Inner Box in mm	Carton in mm
Bulk	76.2x190.5x190.5	431.8x381.0x342.9
Ammo Pack	317.5x203.2x45.7	431.8x381.0x342.9

How to contact us:

US HEADQUARTERS

28040 WEST HARRISON PARKWAY, VALENCIA, CA 91355-4162

Tel: (800) TAITRON (800) 824-8766 (661) 257-6060

Fax: (800) TAITFAX (800) 824-8329 (661) 257-6415

Email: taitron@taitroncomponents.com

Http://www.taitroncomponents.com

TAITRON COMPONENTS MEXICO, S.A .DE C.V.

BOULEVARD CENTRAL 5000 INTERIOR 5 PARQUE INDUSTRIAL ATITALAQUIA, HIDALGO C.P.
42970 MEXICO

Tel: +52-55-5560-1519

Fax: +52-55-5560-2190

TAITRON COMPONENTS INCORPORATED REPRESENTAÇÕES DO BRASIL LTDA

RUA DOMINGOS DE MORAIS, 2777, 2.ANDAR, SALA 24 SAÚDE - SÃO PAULO-SP 04035-001 BRAZIL

Tel: +55-11-5574-7949

Fax: +55-11-5572-0052

TAITRON COMPONENTS INCORPORATED, SHANGHAI REPRESENTATIVE OFFICE

METROBANK PLAZA, 1160 WEST YAN' AN ROAD, SUITE 1503, SHANGHAI, 200052, CHINA

Tel: +86-21-5424-9942

Fax: +86-21-5424-9931