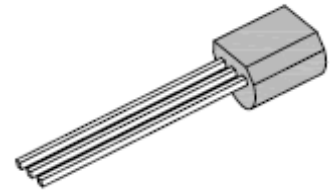


## Small Signal High Voltage Transistors (NPN)

### Features

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



### Mechanical Data

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

TO-92



### Maximum Ratings *(T<sub>Ambient</sub>=25°C unless noted otherwise)*

Symbol	Description	MPSA42	MPSA43	Unit
<b>V<sub>CEO</sub></b>	Collector-Emitter Voltage	300	200	V
<b>V<sub>CBO</sub></b>	Collector-Base Voltage	300	200	V
<b>V<sub>EBO</sub></b>	Emitter-Base Voltage	6.0		V
<b>I<sub>C</sub></b>	Collector Current Continuous	500		mA
<b>P<sub>D</sub></b>	Power Dissipation at T <sub>A</sub> =25°C	625		mW
	Derate above 25°C	5.0		mW/° C
<b>P<sub>D</sub></b>	Power Dissipation at T <sub>C</sub> =25°C	1.5		W
	Derate above 25°C	12		mW/° C
<b>R<sub>θJA</sub></b>	Thermal Resistance Junction to Ambient Air	200		° C/W
<b>R<sub>θJC</sub></b>	Thermal Resistance Junction to Case	83.3		° C/W
<b>T<sub>J</sub> , T<sub>STG</sub></b>	Operation and Storage Junction Temperature Range	-55 to +150		° C

# Small Signal High Voltage Transistors (NPN)

## MPSA42/MPSA43

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

Symbol	Description	MPSA42		MPSA43		Unit	Conditions
		Min.	Max.	Min.	Max.		
<b>V<sub>(BR)CBO</sub></b>	Collector-Base Breakdown Voltage	300	-	200	-	V	I <sub>C</sub> =100μA, I <sub>E</sub> =0
<b>V<sub>(BR)CEO</sub></b>	Collector-Emitter Breakdown Voltage	300	-	200	-	V	I <sub>C</sub> =1mA, I <sub>B</sub> =0
<b>V<sub>(BR)EBO</sub></b>	Emitter-Base Breakdown Voltage	6.0	-	6.0	-	V	I <sub>E</sub> =100μA, I <sub>C</sub> =0
<b>V<sub>CE(sat)</sub></b> *	Collector Emitter Saturation Voltage	-	0.5	-	0.4	V	I <sub>C</sub> =20mA, I <sub>B</sub> =2mA
<b>V<sub>BE(sat)</sub></b> *	Base Emitter Saturation Voltage	-	0.9	-	0.9	V	I <sub>C</sub> =20mA, I <sub>B</sub> =2mA
<b>I<sub>CBO</sub></b>	Collector Cut-Off Current	-	100	-	100	nA	
		V <sub>CB</sub> =200V, I <sub>E</sub> =0		V <sub>CB</sub> =160V, I <sub>E</sub> =0			
<b>I<sub>EBO</sub></b>	Emitter Cut-Off Current	-	100	-	100	nA	
		V <sub>EB</sub> =6V, I <sub>C</sub> =0		V <sub>EB</sub> =4V, I <sub>C</sub> =0			
<b>h<sub>FE</sub></b> *	D.C. Current Gain	25	-	25	-		V <sub>CE</sub> =10V, I <sub>C</sub> =1mA
		40	-	40	-		V <sub>CE</sub> =10V, I <sub>C</sub> =10mA
		40	-	40	-		V <sub>CE</sub> =10V, I <sub>C</sub> =30mA
<b>f<sub>T</sub></b>	Current Gain-Bandwidth Product	50	-	50	-	MHz	V <sub>CE</sub> =20V, I <sub>C</sub> =10mA, f=100MHz
<b>C<sub>CB0</sub></b>	Collector-Base Capacitance	-	3.0	-	4.0	pF	V <sub>CB</sub> =20V, I <sub>E</sub> =0, f=1MHz,

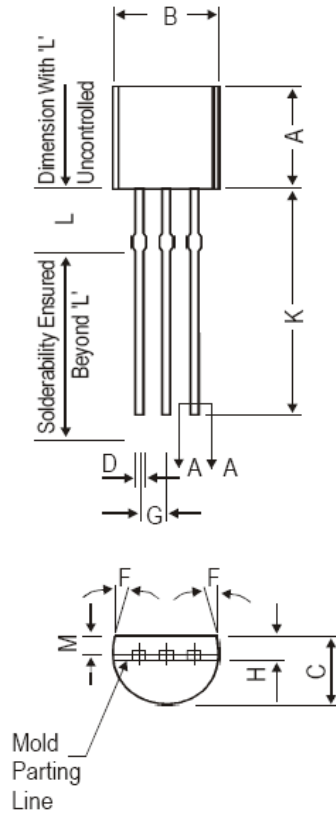
\*Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%

# Small Signal High Voltage Transistors (NPN)

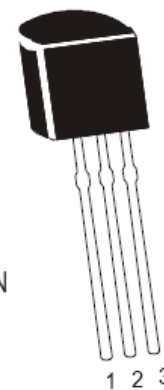
## MPSA42/MPSA43

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)

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## MPSA42/MPSA43

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