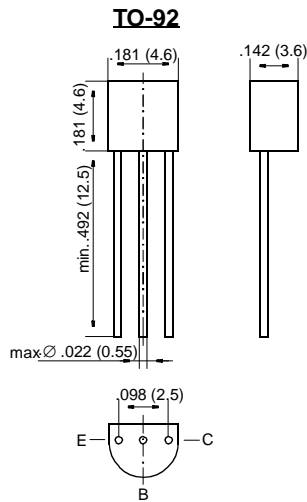


# MPSA42, MPSA43

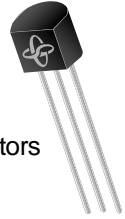
## Small Signal Transistors (NPN)



Dimensions in inches and (millimeters)

### FEATURES

- ◆ NPN Silicon Epitaxial Planar Transistors especially suited as line switch in telephone subsets and in video output stages of TV receivers and monitors.
- ◆ As complementary types, the PNP transistors MPSA92 and MPSA93 are recommended



### MECHANICAL DATA

**Case:** TO-92 Plastic Package

**Weight:** approx. 0.18 g

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

		Symbol	Value	Unit
Collector-Emitter Voltage	<b>MPSA42</b>	$V_{CEO}$	300	V
	<b>MPSA43</b>	$V_{CEO}$	200	V
Collector-Base Voltage	<b>MPSA42</b>	$V_{CBO}$	300	V
	<b>MPSA43</b>	$V_{CBO}$	200	V
Emitter-Base Voltage		$V_{EBO}$	6	V
Collector Current		$I_C$	500	mA
Power Dissipation at $T_{amb} = 25\text{ °C}$		$P_{tot}$	625 <sup>1)</sup>	mW
Junction Temperature		$T_j$	150	°C
Storage Temperature Range		$T_S$	-65 to +150	°C

<sup>1)</sup> Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.

# MPSA42, MPSA43

## ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

		Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage $I_C = 10 \text{ mA}$ , $I_B = 0$	<b>MPSA42</b> <b>MPSA43</b>	$V_{(BR)CEO}$	300	–	–	V
		$V_{(BR)CEO}$	200	–	–	V
Collector-Base Breakdown Voltage $I_C = 100 \mu\text{A}$ , $I_E = 0$	<b>MPSA42</b> <b>MPSA43</b>	$V_{(BR)CBO}$	300	–	–	V
		$V_{(BR)CBO}$	200	–	–	V
Emitter-Base Breakdown Voltage $I_E = 100 \mu\text{A}$ , $I_C = 0$		$V_{(BR)EBO}$	6	–	–	V
Collector-Base Cutoff Current $V_{CB} = 200 \text{ V}$ , $I_E = 0$ $V_{CB} = 160 \text{ V}$ , $I_E = 0$	<b>MPSA42</b> <b>MPSA43</b>	$I_{CBO}$	–	–	100	nA
		$I_{CBO}$	–	–	100	nA
Emitter-Base Cutoff Current $V_{EB} = 6 \text{ V}$ , $I_C = 0$ $V_{EB} = 4 \text{ V}$ , $I_C = 0$	<b>MPSA42</b> <b>MPSA43</b>	$I_{EBO}$	–	–	100	nA
		$I_{EBO}$	–	–	100	nA
DC Current Gain $I_C = 1 \text{ mA}$ , $V_{CE} = 10 \text{ V}$ $I_C = 10 \text{ mA}$ , $V_{CE} = 10 \text{ V}$ $I_C = 30 \text{ mA}$ , $V_{CE} = 10 \text{ V}$		$h_{FE}$	25	–	–	–
		$h_{FE}$	40	–	–	–
		$h_{FE}$	40	–	–	–
Collector-Emitter Saturation Voltage $I_C = 20 \text{ mA}$ , $I_B = 2 \text{ mA}$		$V_{CEsat}$	–	–	500	mV
Base-Emitter Saturation Voltage $I_C = 20 \text{ mA}$ , $I_B = 2 \text{ mA}$		$V_{BEsat}$	–	–	900	mV
Gain-Bandwidth Product $I_E = 10 \text{ mA}$ , $V_{CE} = 20 \text{ V}$ , $f = 100 \text{ MHz}$		$f_T$	50	–	–	MHz
Collector-Base Capacitance $V_{CB} = 20 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$	<b>MPSA42</b> <b>MPSA43</b>	$C_{CBO}$	–	–	3	pF
		$C_{CBO}$	–	–	4	pF
Thermal Resistance Junction to Ambient Air		$R_{thJA}$	–	–	200 <sup>1)</sup>	K/W

<sup>1)</sup> Valid provided that lead are kept at ambient temperature at a distance of 2 mm from case.