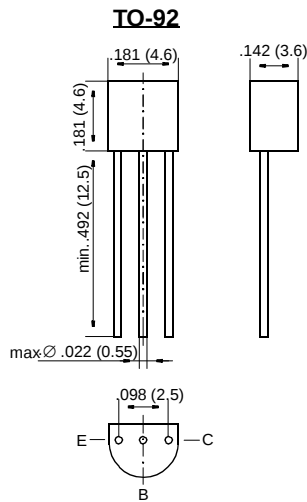


MPSA42, MPSA43

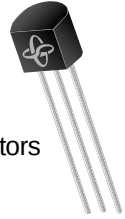
Small Signal Transistors (NPN)



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	MPSA42	V_{CEO}	300	V
	MPSA43	V_{CEO}	200	V
Collector-Base Voltage	MPSA42	V_{CBO}	300	V
	MPSA43	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 ¹⁾	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_S	-65 to +150	°C

¹⁾ 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 $I_C = 10 \text{ mA}$, $I_B = 0$	MPSA42 MPSA43	$V_{(BR)CEO}$ $V_{(BR)CEO}$	300 200	— —	— —	V V
Collector-Base Breakdown Voltage $I_C = 100 \text{ }\mu\text{A}$, $I_E = 0$	MPSA42 MPSA43	$V_{(BR)CBO}$ $V_{(BR)CBO}$	300 200	— —	— —	V V
Emitter-Base Breakdown Voltage $I_E = 100 \text{ }\mu\text{A}$, $I_C = 0$		$V_{(BR)EBO}$	6	—	—	V
Collector-Base Cutoff Current $V_{CB} = 200 \text{ V}$, $I_E = 0$ $V_{CB} = 160 \text{ V}$, $I_E = 0$	MPSA42 MPSA43	I_{CBO} I_{CBO}	— —	— —	100 100	nA nA
Emitter-Base Cutoff Current $V_{EB} = 6 \text{ V}$, $I_C = 0$ $V_{EB} = 4 \text{ V}$, $I_C = 0$	MPSA42 MPSA43	I_{EBO} I_{EBO}	— —	— —	100 100	nA 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} h_{FE} h_{FE}	25 40 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 $V_{CB} = 20 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$	MPSA42 MPSA43	C_{CBO} C_{CBO}	— —	— —	3 4	pF pF
Thermal Resistance Junction to Ambient Air		R_{thJA}	—	—	200 ¹⁾	K/W
¹⁾ Valid provided that lead are kept at ambient temperature at a distance of 2 mm from case.						