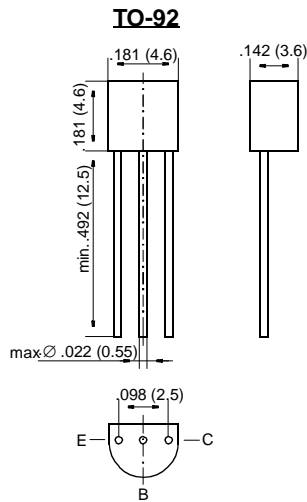


MPSA42, MPSA43

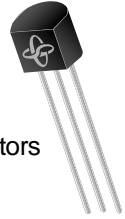
Small Signal Transistors (NPN)



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	$V_{(BR)CEO}$	300	–	–	V
		$V_{(BR)CEO}$	200	–	–	V
Collector-Base Breakdown Voltage $I_C = 100 \mu\text{A}, I_E = 0$	MPSA42 MPSA43	$V_{(BR)CBO}$	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 $V_{CB} = 200 \text{ V}, I_E = 0$ $V_{CB} = 160 \text{ V}, I_E = 0$	MPSA42 MPSA43	I_{CBO}	–	–	100	nA
		I_{CBO}	–	–	100	nA
Emitter-Base Cutoff Current $V_{EB} = 6 \text{ V}, I_C = 0$ $V_{EB} = 4 \text{ V}, I_C = 0$	MPSA42 MPSA43	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 $V_{CB} = 20 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	MPSA42 MPSA43	C_{CBO}	–	–	3	pF
		C_{CBO}	–	–	4	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.