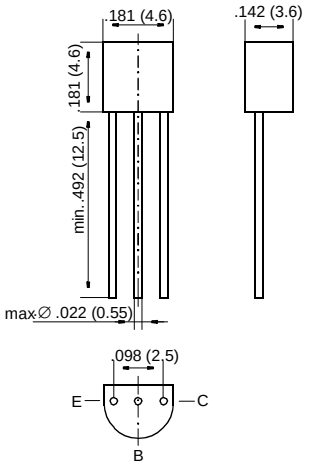
MPSA42, MPSA43

Small Signal Transistors (NPN)

TO-92



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** **MPSA43**	V_{CEO} V_{CEO}	300 200	V V
Collector-Base Voltage	**MPSA42** **MPSA43**	V_{CBO} V_{CBO}	300 200	V V
Emitter-Base Voltage		V_{EBO}	6	V
Collector Current		I_C	500	mA
Power Dissipation at T_{amb} = 25 °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.

GENERAL SEMICONDUCTOR®

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 mA, I_B = 0	**MPSA42** **MPSA43**	$V_{(BR)CEO}$ $V_{(BR)CEO}$	300 200	– –	– –	V V
Collector-Base Breakdown Voltage I_C = 100 µA, I_E = 0	**MPSA42** **MPSA43**	$V_{(BR)CBO}$ $V_{(BR)CBO}$	300 200	– –	– –	V V
Emitter-Base Breakdown Voltage I_E = 100 µA, I_C = 0		$V_{(BR)EBO}$	6	–	–	V
Collector-Base Cutoff Current V_{CB} = 200 V, I_E = 0 V_{CB} = 160 V, I_E = 0	 **MPSA42** **MPSA43**	 I_{CBO} I_{CBO}	 – –	 – –	 100 100	 nA nA
Emitter-Base Cutoff Current V_{EB} = 6 V, I_C = 0 V_{EB} = 4 V, I_C = 0	 **MPSA42** **MPSA43**	 I_{EBO} I_{EBO}	 – –	 – –	 100 100	 nA nA
DC Current Gain I_C = 1 mA, V_{CE} = 10 V I_C = 10 mA, V_{CE} = 10 V I_C = 30 mA, V_{CE} = 10 V		 h_{FE} h_{FE} h_{FE}	 25 40 40	 – – –	 – – –	 – – –
Collector-Emitter Saturation Voltage I_C = 20 mA, I_B = 2 mA		V_{CEsat}	–	–	500	mV
Base-Emitter Saturation Voltage I_C = 20 mA, I_B = 2 mA		V_{BEsat}	–	–	900	mV
Gain-Bandwidth Product I_E = 10 mA, V_{CE} = 20 V, f = 100 MHz		f_T	50	–	–	MHz
Collector-Base Capacitance V_{CB} = 20 V, I_E = 0, f = 1 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.