



T-29-21

SILICON PLANAR EPITAXIAL TRANSISTORS

N-P-N small-signal transistors in plastic TO-92 envelope intended for low-noise applications in audio equipment.

Complementary types are MPS6522 and MPS6523.

QUICK REFERENCE DATA

Collector-emitter voltage (open base)	V_{CEO}	max.	25	V
Collector-base voltage (open emitter)	V_{CB0}	max.	40	V
Collector current (d.c.)	I_C	max.	100	mA
Total device dissipation up to $T_{amb} = 25^\circ C$	P_{tot}	max.	625	mW
Collector-emitter saturation voltage $I_C = 50 \text{ mA}; I_B = 5 \text{ mA}$	V_{CEsat}	max.	0,5	V
D.C. current gain $I_C = 100 \mu A; V_{CE} = 10 \text{ V}$	h_{FE}	min.	100	150
		max.	400	600
D.C. current gain $I_C = 2 \text{ mA}; V_{CE} = 10 \text{ V}$	h_{FE}	min.	200	300
		max.	400	600

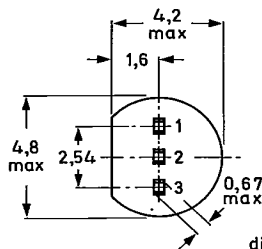
MECHANICAL DATA

Dimensions in mm

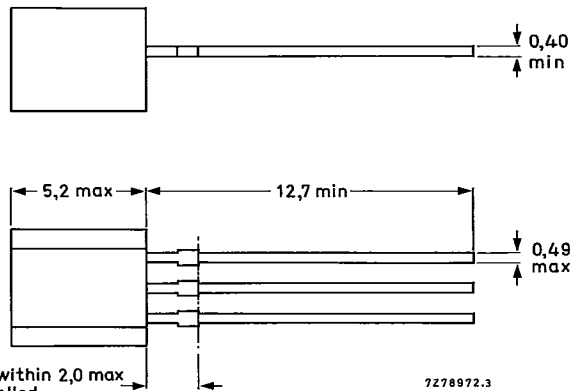
Fig. 1 TO-92.

Pinning

- 1 = collector
- 2 = base
- 3 = emitter



diameter within 2,0 max is uncontrolled



Capability approved to CECC NECC-C-002

MPS6520
MPS6521

PHILIPS INTERNATIONAL

56E D ■ 7110826 0042503 510 ■ PHIN

RATINGS

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Limiting values in accordance with the Absolute Maximum System (IEC 134)

Collector-emitter voltage (open base)	V _{CEO}	max.	25	V
Collector-base voltage (open emitter)	V _{CBO}	max.	40	V
Emitter-base voltage (open collector)	V _{EBO}	max.	4,0	V
Collector current (d.c.)	I _C	max.	100	mA
Total device dissipation up to T _{amb} = 25 °C	P _{tot}	max.	625	mW
Storage temperature range	T _{stg}		-65 to +150	°C
Junction temperature	T _j	max.	150	°C

THERMAL RESISTANCE

From junction to ambient in free air	R _{th j-a}	=	200	K/W
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CHARACTERISTICS

T_j = 25 °C unless otherwise specified

Collector-emitter breakdown voltage I _B = 0; I _C = 0,5 mA	V _{(BR)CEO}	min.	25	V
Emitter-base breakdown voltage I _E = 10 μA; I _C = 0	V _{(BR)EBO}	min.	4,0	V
Collector cut-off current V _{CB} = 30 V; I _E = 0	I _{CBO}	max.	50	nA
Collector-emitter saturation voltage I _C = 50 mA; I _B = 5 mA	V _{CEsat}	max.	0,5	V
Output capacitance at f = 100 kHz V _{CB} = 10 V; I _E = 0	C _o	max.	3,5	pF
Noise figure at T _{amb} = 25 °C I _C = 10 μA; V _{CE} = 5 V; R _S = 10 kΩ; f = 10 Hz to 10 kHz	F	max.	3,0	dB

D.C. current gain

I _C = 100 μA; V _{CE} = 10 V	h _{FE}	min.	100	150
I _C = 2 mA; V _{CE} = 10 V	h _{FE}	min.	200	300
		max.	400	600

	MPS6520	MPS6521
h _{FE} min.	100	150
h _{FE} min.	200	300
h _{FE} max.	400	600