



HIGH VOLTAGE SILICON PLANAR TRANSISTORS

P-N-P high voltage silicon planar transistors in plastic TO-92 envelope for general purpose applications.

QUICK REFERENCE DATA

			MPSA92	MPSA93
Collector-emitter voltage (open base)	$-V_{CEO}$	max.	300	200 V
Collector-base voltage (open emitter)	$-V_{CB0}$	max.	300	200 V
Collector current (d.c.)	$-I_C$	max.	500	mA
Total device dissipation at $T_{amb} = 25^\circ C$	P_{tot}	max.	625	mW
Collector-emitter saturation voltage $-I_C = 20\text{ mA}; -I_B = 2,0\text{ mA}$	$-V_{CEsat}$	max.	0,5	V
D.C. current gain $-I_C = 30\text{ mA}; -V_{CE} = 10\text{ V}$	h_{FE}	min.	25	

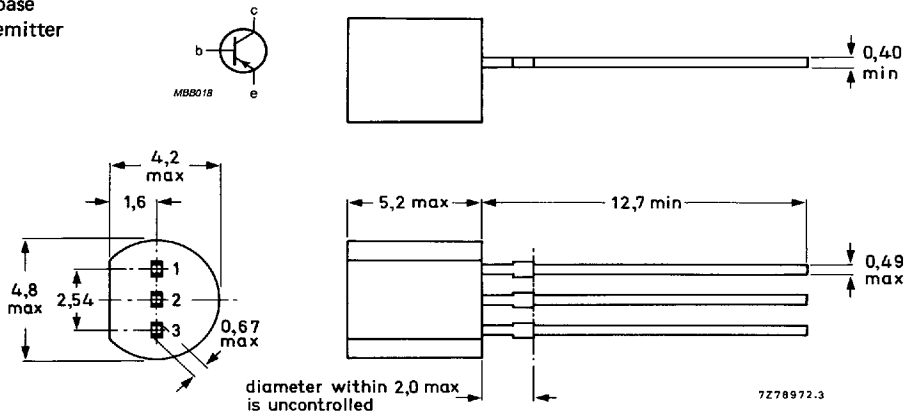
MECHANICAL DATA

Dimensions in mm

Fig. 1 TO-92.

Pinning

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



Capability approved to CECC NECC-C-002

RATINGS

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

			MPSA92	MPSA93
Collector-emitter voltage (open base)	V_{CEO}	max.	300	200 V
Collector-base voltage (open emitter)	V_{CBO}	max.	300	200 V
Emitter-base voltage (open collector)	V_{EBO}	max.	5,0	V
Collector current (d.c.)	I_C	max.	500	mA
Total device dissipation at $T_{amb} = 25\text{ }^\circ\text{C}$	P_{tot}	max.	625	mW
Storage temperature range	T_{stg}		-65 to +150	$^\circ\text{C}$
Junction temperature	T_j	max.	150	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient	$R_{th\ j-a}$	=	200	K/W
--------------------------	---------------	---	-----	-----

CHARACTERISTICS

$T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified

Collector-emitter breakdown voltage $I_B = 0; -I_C = 1,0\text{ mA}$	$-V_{(BR)CEO}$	min.	300	200 V
Collector-base breakdown voltage $I_E = 0; -I_C = 100\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	min.	300	200 V
Emitter-base breakdown voltage $I_C = 0; -I_E = 100\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	min.	5,0	V
Collector cut-off current $I_E = 0; -V_{CB} = 200\text{ V}$ $I_E = 0; -V_{CB} = 160\text{ V}$	$-I_{CBO}$	max.	0,25	μA
Emitter cut-off current $I_C = 0; -V_{BE} = 3,0\text{ V}$	$-I_{EBO}$	max.	0,1	μA
D.C. current gain*				
$-I_C = 1,0\text{ mA}; -V_{CE} = 10\text{ V}$	h_{FE}	min.	25	
$-I_C = 10\text{ mA}; -V_{CE} = 10\text{ V}$	h_{FE}	min.	40	
$-I_C = 30\text{ mA}; -V_{CE} = 10\text{ V}$	h_{FE}	min.	25	
Saturation voltages*				
$-I_C = 20\text{ mA}; -I_B = 2,0\text{ mA}$	$-V_{CEsat}$	max.	0,5	V
$-I_C = 20\text{ mA}; -I_B = 2,0\text{ mA}$	$-V_{BEsat}$	max.	0,9	V
Transition frequency at $f = 100\text{ MHz}$ $-I_C = 10\text{ mA}; -V_{CE} = 20\text{ V}$	f_T	min.	50	MHz
Collector-base capacitance at $f = 1\text{ MHz}$ $-V_{CB} = 20\text{ V}; I_E = 0$	C_{cb}	max.	6,0	8,0 pF

* Pulse test: pulse width $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$.