

HIGH VOLTAGE N-P-N TRANSISTORS

Silicon planar epitaxial transistor in a microminiature plastic package intended for application in thick and thin-film circuits. This transistor is intended for high-voltage general purpose and switching applications.

QUICK REFERENCE DATA

Collector-base voltage (open emitter)	V _{CBO}	max.	120	V
Collector-emitter voltage (open base)	V _{CEO}	max.	80	V
Collector current (peak value)	I _{CM}	max.	250	mA
Total power dissipation up to T _{amb} = 25 °C	P _{tot}	max.	250	mW
Junction temperature	T _j	max.	150	°C
D.C. current gain I _C = 10 mA; V _{CE} = 1 V; T _j = 25 °C	h _{FE}	> typ.	20 80	
Transition frequency at f = 100 MHz I _C = 4 mA; V _{CE} = 10 V	f _T	>	60	MHz
Turn-off time I _C = 15 mA; I _{Bon} = -I _{Boff} = 1 mA	t _{off}	<	1	μs

MECHANICAL DATA

Dimensions in mm

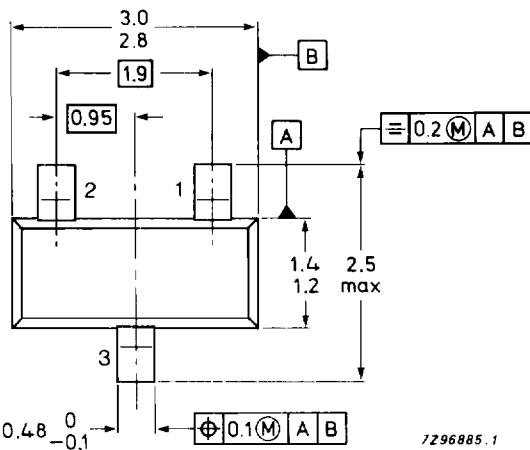
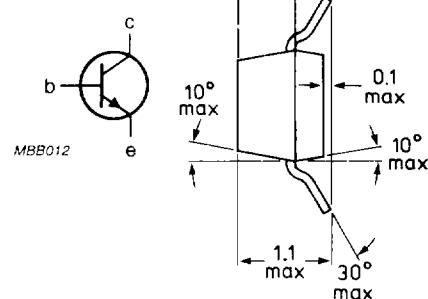
Marking code

Fig. 1 SOT-23.

BSS64 = AMP

Pinning:

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



Reverse pinning types are available on request.

TOP VIEW

RATINGS

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

Collector-base voltage (open emitter)

$I_C = 100 \mu A$

V_{CBO} max. 120 V

Collector-emitter voltage (open base)

$I_C = 4 mA$

V_{CEO} max. 80 V

Emitter-base voltage (open collector)

$I_E = 100 \mu A$

V_{EBO} max. 5 V

Collector current

(d.c. or averaged over any 20 ms period)

I_C max. 100 mA

Collector current (peak value)

I_{CM} max. 250 mA

Base current (peak value)

I_{BM} max. 100 mA

Total power dissipation up to $T_{amb} = 25^\circ C$

P_{tot} max. 250 mW

Storage temperature

T_{stg} -65 to +150 °C

Junction temperature

T_j max. 150 °C

THERMAL RESISTANCE

From junction to ambient*

$R_{th\ j-a}$ = 500 K/W

CHARACTERISTICS

$T_j = 25^\circ C$ unless otherwise specified

Collector cut-off current

$I_E = 0$; $V_{CB} = 90 V$

I_{CBO} < 100 nA

$I_E = 0$; $V_{CB} = 90 V$; $T_j = 150^\circ C$

I_{CBO} < 50 μA

Emitter cut-off current

$I_C = 0$; $V_{EB} = 5 V$

I_{EBO} typ. < 0,5 nA

200 nA

Saturation voltages

$I_C = 4 mA$; $I_B = 400 \mu A$

V_{CEsat} < 150 mV

V_{BEsat} < 1200 mV

$I_C = 50 mA$; $I_B = 15 mA$

V_{CEsat} < 200 mV

D.C. current gain

$I_C = 1 mA$; $V_{CE} = 1 V$

h_{FE} typ. 60

$I_C = 10 mA$; $V_{CE} = 1 V$

h_{FE} typ. 20

$I_C = 20 mA$; $V_{CE} = 1 V$

h_{FE} typ. 80

$I_C = 20 mA$; $V_{CE} = 1 V$

h_{FE} typ. 55

* Mounted on an FR4 printed-circuit board 8 mm x 10 mm x 0.7 mm.

Transition frequency at $f = 100$ MHz $I_C = 4$ mA; $V_{CE} = 10$ V	f_T	> typ.	60 MHz 100 MHz
Collector capacitance at $f = 1$ MHz $I_E = I_e = 0$; $V_{CB} = 10$ V	C_C	typ.	3 pF
Turn-off switching time $I_{Con} = 15$ mA; $I_{Bon} = -I_{Boff} = 1$ mA	t_{off}	<	1 μ s