

SILICON PLANAR EPITAXIAL TRANSISTORS

P-N-P transistors, in a SOT-23 plastic package, intended for application in thick and thin-film circuits. These transistors are intended for general purposes as well as saturated switching and driver applications for industrial service.

N-P-N complements are BCX19 and BCX20 respectively.

QUICK REFERENCE DATA

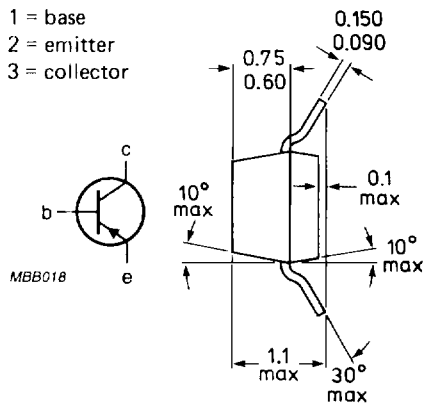
	BCX17	BCX18	
Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$ max.	50	30 V
Collector-emitter voltage (open base)	$-V_{CEO}$ max.	45	25 V
Collector current (peak value)	$-I_{CM}$ max.	1000	mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$	P_{tot} max.	250	mW
Junction temperature	T_j max.	150	$^\circ\text{C}$
D.C. current gain	h_{FE}	100 to 600	
Transition frequency	f_T	> 80	MHz
$-I_C = 100\text{ mA}; -V_{CE} = 1\text{ V}$			
$-I_C = 10\text{ mA}; -V_{CE} = 5\text{ V}; f = 100\text{ MHz}$			

MECHANICAL DATA

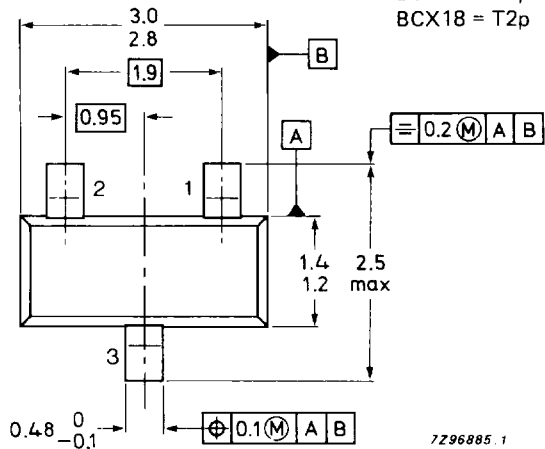
Fig. 1 SOT-23.

Pinning:

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



Dimensions in mm



Marking code

BCX17 = T1p
BCX18 = T2p

TOP VIEW

Reverse pinning types are available on request.

RATINGS

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

			BCX17	BCX18	
Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$	max.	50	30	V
Collector-emitter voltage $-I_C = 10$ mA (see Fig. 2)	$-V_{CEO}$	max.	45	25	V
Emitter-base voltage (open collector)	$-V_{EBO}$	max.	5	5	V
Collector current (d.c.)	$-I_C$	max.	500		mA
Collector current (peak value)	$-I_{CM}$	max.	1000		mA
Emitter current (peak value)	I_{EM}	max.	1000		mA
Base current (d.c.)	$-I_B$	max.	100		mA
Base current (peak value)	$-I_{BM}$	max.	200		mA
Total power dissipation up to $T_{amb} = 25$ °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

$T_j = 25$ °C unless otherwise specified

Collector cut-off current $I_E = 0; -V_{CB} = 20$ V	$-I_{CBO}$	<	100	nA
$I_E = 0; -V_{CB} = 20$ V; $T_j = 150$ °C	$-I_{CBO}$	<	5	μA
Emitter cut-off current $I_C = 0; -V_{EB} = 5$ V	$-I_{EBO}$	<	10	μA
Base-emitter voltage ▲ $-I_C = 500$ mA; $-V_{CE} = 1$ V	$-V_{BE}$	<	1,2	V
Saturation voltage $-I_C = 500$ mA; $-I_B = 50$ mA	$-V_{CEsat}$	<	620	mV

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

▲ $-V_{BE}$ decreases by about 2 mV/°C with increasing temperature.

D.C. current gain

$-I_C = 100 \text{ mA}; -V_{CE} = 1 \text{ V}$

BCX17-25 $h_{FE} > 160$

$-I_C = 300 \text{ mA}; -V_{CE} = 1 \text{ V}$

BCX17/18 $h_{FE} 100 \text{ to } 600$

$-I_C = 500 \text{ mA}; -V_{CE} = 1 \text{ V}$

$h_{FE} > 70$

$h_{FE} > 40$

Transition frequency at $f = 100 \text{ MHz}$

$-I_C = 10 \text{ mA}; -V_{CE} = 5 \text{ V}$

f_T typ. 80 MHz

Collector capacitance at $f = 1 \text{ MHz}$

$I_E = I_e = 0; -V_{CB} = 10 \text{ V}$

C_c typ. 8 pF