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 °C	P_{tot}	max.	250		mW
Junction temperature	T_j	max.	150		°C
D.C. current gain $-I_C$ = 100 mA; $-V_{CE}$ = 1 V	h_{FE}		100 to 600		
Transition frequency $-I_C$ = 10 mA; $-V_{CE}$ = 5 V; f = 100 MHz	f_T	>	80		MHz

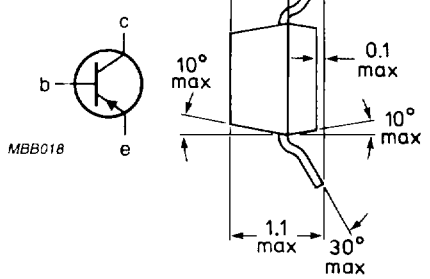
MECHANICAL DATA

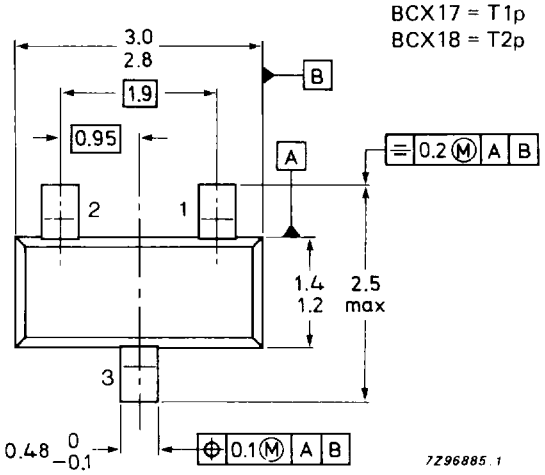
Dimensions in mm

Fig. 1 SOT-23.

Pinning:

1 = base
2 = emitter
3 = collector





TOP VIEW

Marking code

BCX17 = T1p
BCX18 = T2p

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	$R_{th\ j\text{-}a}$	=	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 mA; $-V_{CE}$ = 1 V	BCX17-25	h_{FE}	>	160
	BCX17/18	h_{FE}	100 to 600	
$-I_C$ = 300 mA; $-V_{CE}$ = 1 V		h_{FE}	>	70
$-I_C$ = 500 mA; $-V_{CE}$ = 1 V		h_{FE}	>	40
Transition frequency at f = 100 MHz				
$-I_C$ = 10 mA; $-V_{CE}$ = 5 V		f_T	typ.	80 MHz
Collector capacitance at f = 1 MHz				
$I_E = I_e = 0$; $-V_{CB}$ = 10 V		C_c	typ.	8 pF