SILICON PLANAR EPITAXIAL TRANSISTORS

PNP transistors in miniature plastic packages intended for use in amplifier and switching applications. Complementary types are BSP19/20.

QUICK REFERENCE DATA

			BSP15	BSP16	
Collector-base voltage (open emitter)	$-V_{CBO}$	max.	200	350	V
Collector-emitter voltage (open base)	$-V_{CEO}$	max.	200	300	V
Collector current (DC)	$-I_C$	max.	1		A
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	max.	1,5		W
Junction temperature	T_j	max.	150		°C
DC current gain $-V_{CE}$ = 10 V; $-I_C$ = 50 mA	h_{FE}		30 to 150	30 to 120	
Transition frequency $-V_{CE}$ = 10 V; $-I_C$ = 10 mA	f_T	>	15		MHz

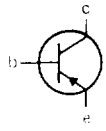
MECHANICAL DATA

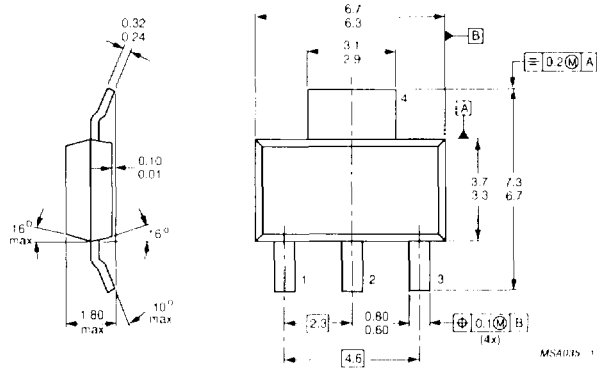
Dimensions in mm

Fig. 1 SOT-223

Pinning

1 = Base
2 = Collector
3 = Emitter
4 = Collector





RATINGS

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

			BSP15	BSP16	
Collector-base voltage (open emitter)	$-V_{CBO}$	max.	200	350	V
Collector-emitter voltage (open base)	$-V_{CEO}$	max.	200	300	V
Emitter-base voltage (open collector)	$-V_{EBO}$	max.	4	6	V
Collector current (DC)	$-I_C$	max.	1		A
Base current	I_B	max.	0,5		A
Total power dissipation up to T_{amb} = 25 °C*	P_{tot}	max.	1,5		W
Junction temperature	T_j	max.	150		°C
Storage temperature range	T_{stg}		−65 to 150		°C

THERMAL RESISTANCE

from junction to ambient*	$R_{th\,j\text{-}mb}$	=	83,3	K/W

CHARACTERISTICS

T_j = 25 °C unless otherwise specified

			BSP15	BSP16	
Collector cut-off current					
I_E = 0; $-V_{CB}$ = 175 V	$-I_{CBO}$	<	1	–	μA
I_E = 0; $-V_{CB}$ = 280 V	$-I_{CBO}$	<	–	1	μA
I_B = 0; $-V_{CE}$ = 150 V	$-I_{CEO}$	<	50	–	μA
I_B = 0; $-V_{CE}$ = 250 V	$-I_{CEO}$	<	–	50	μA
Emitter cut-off current					
I_C = 0; $-V_{EB}$ = 4 V	$-I_{EBO}$	<	20	–	μA
I_C = 0; $-V_{EB}$ = 6 V	$-I_{EBO}$	<	–	20	μA
Collector-emitter breakdown voltage					
I_B = 0; $-I_C$ = 50 mA; L = 25 mH	$-V_{(BR)CEO}$	>	200	300	V
Collector-emitter saturation voltage					
$-I_C$ = 50 mA; $-I_B$ = 5 mA	$-V_{CEsat}$	<	2,5	2,0	V
DC current gain					
$-V_{CE}$ = 10 V; $-I_C$ = 50 mA	h_{FE}		30 to 150	30 to 120	
Transition frequency at f = 30 MHz					
$-I_C$ = 10 mA; $-V_{CE}$ = 10 V	f_T	>	15		MHz
Collector capacitance at f = 1 MHz					
$I_E = I_e$ = 0; $-V_{CB}$ = 10 V	C_c	<	15		pF

Device mounted on an epoxy printed circuit board 40 mm x 40 mm x 1,5 mm; mounting pad for the collector lead min. 6 cm^2.