

SILICON PLANAR EPITAXIAL TRANSISTOR

PNP transistor in a plastic TO-92 package, intended for low-voltage, high-current LF applications. BC368/BC369 is the matched complementary pair suitable for class-B output stages up to 3 W.

QUICK REFERENCE DATA

Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$ max.	25 V
Collector-emitter voltage (open base)	$-V_{CEO}$ max.	20 V
Collector current (peak value)	$-I_{CM}$ max.	2 A
Total power dissipation up to $T_{amb} = 25\text{ }^{\circ}\text{C}$	P_{tot} max.	1 W
Junction temperature	T_j max.	150 $^{\circ}\text{C}$
DC current gain	h_{FE}	85 to 375
$-I_C = 500\text{ mA}; -V_{CE} = 1\text{ V}$		
Transition frequency at $f = 100\text{ MHz}$	f_T min.	40 MHz
$-I_C = 10\text{ mA}; -V_{CE} = 5\text{ V}$		

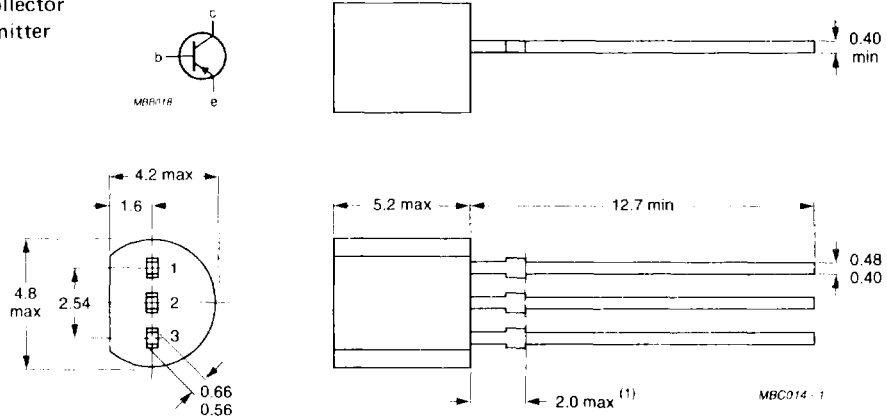
MECHANICAL DATA

Dimensions in mm

Fig. 1 TO-92.

Pinning

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



Note (1) Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

RATINGS

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

Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$	max.	25 V
Collector-emitter voltage (open base)	$-V_{CEO}$	max.	20 V
Emitter-base voltage (open collector)	$-V_{EBO}$	max.	5 V
Collector current (DC)	$-I_C$	max.	1 A
Collector current (peak value)	$-I_{CM}$	max.	2 A
Base current (DC)	$-I_B$	max.	100 mA
Base current (peak value)	$-I_{BM}$	max.	200 mA
Total power dissipation	P_{tot}	max.	0,8 W
at $T_{amb} = 25\text{ }^\circ\text{C}$ (in free air)	P_{tot}	max.	1 W
up to $T_{amb} = 25\text{ }^\circ\text{C}^*$			
Storage temperature range	T_{stg}		-65 to $+150\text{ }^\circ\text{C}$
Junction temperature	T_j	max.	$150\text{ }^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient in free air	R_{thj-a}	=	156 K/W
From junction to ambient*	R_{thj-a}	=	125 K/W
From junction to case	R_{thj-c}	=	60 K/W

* Transistor mounted on printed-circuit board, maximum lead length 4 mm, mounting pad for collector lead min. 10 mm x 10 mm.

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

Collector cut-off current

$I_E = 0; -V_{CB} = 25\text{ V}$

 $-I_{CBO}$ max. 10 μA

$I_E = 0; -V_{CB} = 25\text{ V}; T_j = 150\text{ }^\circ\text{C}$

 $-I_{CBO}$ max. 1 mA

Emitter cut-off current

$I_C = 0; -V_{EB} = 5\text{ V}$

 $-I_{EBO}$ max. 10 μA

Base-emitter voltage

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

 $-V_{BE}$ max. 0.7 V

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

 $-V_{BE}$ max. 1 V

Collector-emitter saturation voltage

$-I_C = 1\text{ A}; -I_B = 100\text{ mA}$

 $-V_{CEsat}$ max. 0.5 V

DC current gain

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

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

BC369 h_{FE} min. 50BC369-10 h_{FE} 85 to 375BC369-10 h_{FE} < 160BC369-25 h_{FE} > 160 h_{FE} min. 60

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

Collector capacitance at $f = 450\text{ kHz}$

$I_E = I_e = 0; -V_{CB} = 5\text{ V}$

 C_c max. 60 pFTransition frequency at $f = 100\text{ MHz}$

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

 f_T min. 40 MHz

