

SILICON PLANAR EPITAXIAL TRANSISTORS

P-N-P transistors, in a SOT-23 plastic package for use in driver and output stages of audio amplifiers in thick and thin-film hybrid circuits.

N-P-N complements are BC817; R and BC818; R respectively.

QUICK REFERENCE DATA

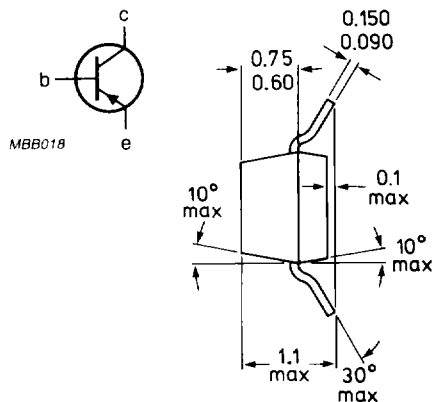
	BC807		BC808	
	Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$ max.	50	30
Collector-emitter voltage (open base)	$-V_{CEO}$ max.	45	25	V
Collector current (peak value)	$-I_{CM}$ max.	1000		mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$	P_{tot} max.	250		mW
Junction temperature	T_j max.	150		$^\circ\text{C}$
Transition frequency at $f = 100$ MHz $-I_C = 10$ mA; $-V_{CE} = 5$ V	f_T	>	80	MHz

MECHANICAL DATA

Fig. 1 SOT-23.

Pinning:

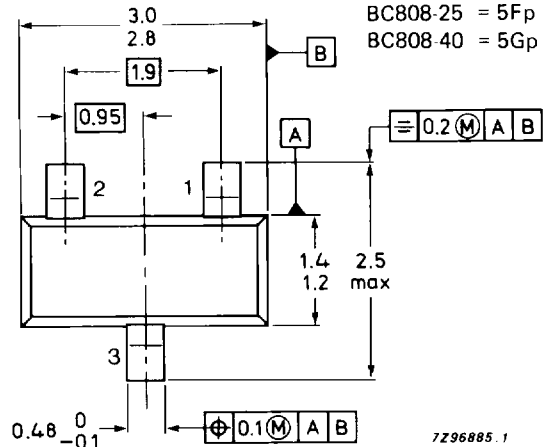
- 1 = base
- 2 = emitter
- 3 = collector



Dimensions in mm

Marking code:

- BC807 = 5Dp
- BC807-16 = 5Ap
- BC807-25 = 5Bp
- BC807-40 = 5Cp
- BC808 = 5Hp
- BC808-16 = 5Ep
- BC808-25 = 5Fp
- BC808-40 = 5Gp



TOP VIEW

Reverse pinning types are available on request.

RATINGS

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

		BC807	BC808
Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$ max.	50	30 V
Collector-emitter voltage (open base) $-I_C = 10 \text{ mA}$	$-V_{CEO}$ max.	45	25 V
Emitter-base voltage (open collector)	$-V_{EBO}$ max.	5	5 V
Collector current (DC)	$-I_C$ max.	500	mA
Collector current (peak value)	$-I_{CM}$ max.	1000	mA
Emitter current (peak value)	I_{EM} max.	1000	mA
Base current (DC)	$-I_B$ max.	100	mA
Base current (peak value)	$-I_{BM}$ max.	200	mA
Total power dissipation at $T_{amb} = 25 \text{ }^\circ\text{C}$ *	P_{tot} max.	250	mW
Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$
Junction temperature	T_j max.	150	$^\circ\text{C}$

THERMAL RESISTANCE*

From junction to ambient	$R_{tj \text{ j-a}}$ =	500	K/W
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* Mounted on an FR4 printed-circuit board 8 mm x 10 mm x 0.7 mm.

CHARACTERISTICS

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

Collector cut-off current

$I_E = 0; -V_{CB} = 20\text{ V}; T_j = 25\text{ }^\circ\text{C}$

$-I_{CBO}$ max. 100 nA

$I_E = 0; -V_{CB} = 20\text{ V}; T_j = 150\text{ }^\circ\text{C}$

$-I_{CBO}$ max. 5 μA

Emitter cut-off current

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

$-I_{EBO}$ max. 10 μA

Base emitter voltage *

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

$-V_{BE}$ max. 1,2 V

Saturation voltage

$-I_C = 500\text{ mA}; -I_B = 50\text{ mA}$

$-V_{CEsat}$ max. 700 mV

D.C. current gain

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

h_{FE} min. 40

$-I_C = 100\text{ mA}; -V_{CE} = 1\text{ V}; \text{BC807}; \text{BC808}$

h_{FE} 100 to 600

BC807-16 |

BC808-16 |

h_{FE} 100 to 250

BC807-25 |

BC808-25 |

h_{FE} 160 to 400

BC807-40 |

BC808-40 |

h_{FE} 250 to 600

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

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

$f_T > 80\text{ MHz}$

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

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

C_c typ. 8 pF

* $-V_{BE}$ decreases by about 2 mV/K with increasing temperature.