

SILICON PLANAR EPITAXIAL TRANSISTORS

P-N-P transistor

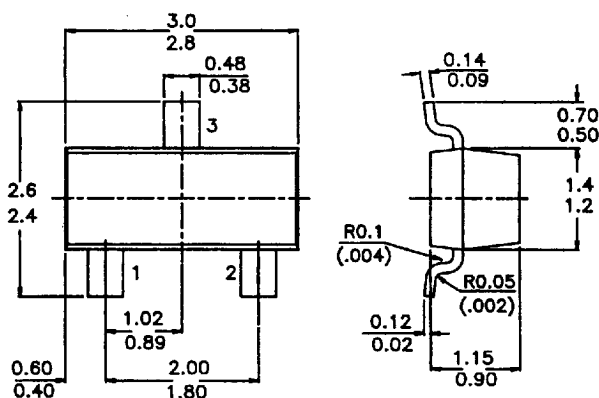
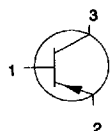
Marking

BC807 = 5D
BC807-16 = 5A
BC807-25 = 5B
BC807-40 = 5C
BC808 = 5H
BC808-16 = 5E
BC808-25 = 5F
BC808-40 = 5G

PACKAGE OUTLINE DETAILS ALL DIMENSIONS IN mm

Pin configuration

1 = BASE
2 = EMITTER
3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

Collector-emitter voltage ($V_{BE} = 0$)
Collector-emitter voltage (open base)
Collector current (peak value)
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$
Junction temperature
Transition frequency at $f = 100\text{ MHz}$
 $-I_C = 10\text{ mA}; -V_{CE} = 5\text{ V}$

		BC807	BC808
$-V_{CES}$	max.	50	30 V
$-V_{CE0}$	max.	45	25 V
$-I_{CM}$	max.	1000	mA
P_{tot}	max.	250	mW
T_j	max.	150	$^\circ\text{C}$
f_T	>	80	MHz

2383394 0000732 034

CDIL

BC807
BC808

RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values

		BC807	BC808
Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$ max.	50	30 V
Collector-emitter voltage (open base)			
$-I_C = 10 \text{ mA}$	$-V_{CE0}$ max.	45	25 V
Emitter-base voltage (open collector)	$-V_{EB0}$ 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 $T_{amb} = 25^\circ\text{C}^*$	P_{tot} max.	250	mW
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$
Junction temperature	T_j max.	150	$^\circ\text{C}$

THERMAL RESISTANCE*

From junction to ambient	R_{tj-j-a}	=	500	K/W
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CHARACTERISTICS

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

Collector cut-off current

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

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

$-I_{CB0}$	max.	100 nA
$-I_{CB0}$	max.	5 μA

Emitter cut-off current

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

$-I_{EB0}$	max.	10 μA
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Base emitter voltage *

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

$-V_{BE}$	max.	1.2 V
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Saturation voltage

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

$-V_{CEsat}$	max.	700 mV
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D.C. current gain

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

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

h_{FE}	min.	40
h_{FE}		100 to 600

BC807-16

BC808-16

h_{FE}		100 to 250
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BC807-25

BC808-25

h_{FE}		160 to 400
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BC807-40

BC808-40

h_{FE}		250 to 600
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Transition frequency at $f = 100 \text{ MHz}$

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

f_T	>	80 MHz
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Collector capacitance at $f = 1 \text{ MHz}$

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

C_c	typ.	8 pF
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