

SOT-23 Formed SMD Package

**BC817
BC818**

SILICON PLANAR EPITAXIAL TRANSISTORS

N-P-N transistors

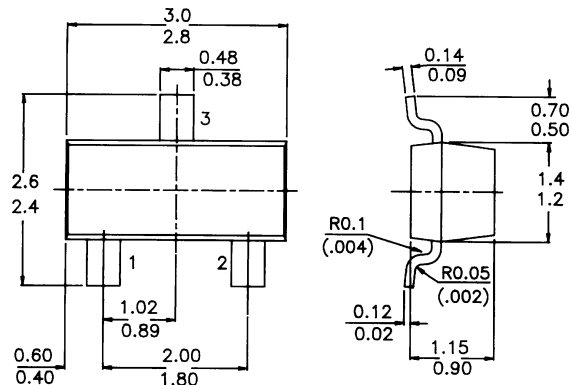
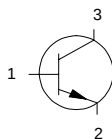
Marking

BC817 = 6D
BC817-16 = 6A
BC817-25 = 6B
BC817-40 = 6C
BC818 = 6H
BC818-16 = 6E
BC818-25 = 6F
BC818-40 = 6G

**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 $f = 100\text{ MHz}$
 $I_C = 10\text{ mA}$; $V_{CE} = 5\text{ V}$

		BC817	BC818
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	>	100	MHz

BC817 BC818

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

Limiting values

Collector-emitter voltage ($V_{BE} = 0$)

Collector-emitter voltage (open base)

$I_C = 10\text{ mA}$

Emitter-base voltage (open collector)

Collector current (d.c.)

Collector current (peak value)

Emitter current (peak value)

Base current (d.c.)

Base current (peak value)

Total power dissipation up to $T_{amb} = 25^\circ\text{C}$

Storage temperature

Junction temperature

		BC817	BC818
V_{CES}	max.	50	30 V
V_{CE0}	max.	45	25 V
V_{EB0}	max.	5	5 V
I_C	max.	500	mA
I_{CM}	max.	1000	mA
$-I_{EM}$	max.	1000	mA
I_B	max.	100	mA
I_{BM}	max.	200	mA
P_{tot}	max.	250	mW
T_{stg}		-55 to +150	$^\circ\text{C}$
T_j	max.	150	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient

$$R_{th\ j-a} = 500\text{ KW}$$

CHARACTERISTICS

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

Collector cut-off current

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

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

Emitter cut-off current

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

Base emitter voltage *

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

Saturation voltage

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

D.C. current gain

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

$I_C = 100\text{ mA}$; $V_{CE} = 1\text{ V}$; BC817/BC818

BC817-16

BC818-16

BC817-25

BC818-25

BC817-40

BC818-40

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

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

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

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

I_{CB0}	<	100 nA
I_{CB0}	<	5 μA
I_{EB0}	<	10 μA
V_{BE}	<	1,2 V
V_{CEsat}	<	700 mV
h_{FE}	>	40
h_{FE}		100 to 600
h_{FE}		100 to 250
h_{FE}		160 to 400
h_{FE}		250 to 600
f_T	>	100 MHz
C_c	typ.	5 pF

Notes

Disclaimer

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