

SOT-23 Formed SMD Package

**BC817
BC818**

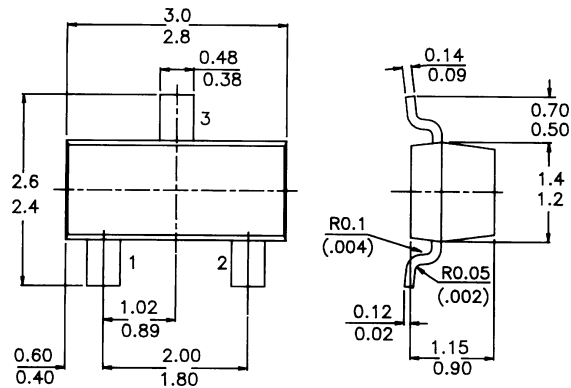
SILICON PLANAR EPITAXIAL TRANSISTORS

N-P-N transistors

Marking

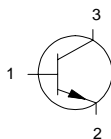
- BC817 = 6D
- BC817-16 = 6A
- BC817-25 = 6B
- BC817-40 = 6C
- BC818 = 6H
- BC818-16 = 6E
- BC818-25 = 6F
- BC818-40 = 6G

**PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm**



Pin configuration

- 1 = BASE
- 2 = EMITTER
- 3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

		BC817	BC818
Collector-emitter voltage ($V_{BE} = 0$)	V_{CES} max.	50	30 V
Collector-emitter voltage (open base)	V_{CE0} max.	45	25 V
Collector current (peak value)	I_{CM} max.	1000	mA
Total power dissipation up to $T_{amb} = 25\text{ }^{\circ}\text{C}$	P_{tot} max.	250	mW
Junction temperature	T_j max.	150	$^{\circ}\text{C}$
Transition frequency at $f = 100\text{ MHz}$ $I_C = 10\text{ mA}; V_{CE} = 5\text{ V}$	f_T >	100	MHz

BC817
BC818

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

Limiting values

		BC817	BC818
Collector-emitter voltage ($V_{BE} = 0$)	V_{CES} max.	50	30 V
Collector-emitter voltage (open base) $I_C = 10$ mA	V_{CE0} max.	45	25 V
Emitter-base voltage (open collector)	V_{EB0} max.	5	5 V
Collector current (d.c.)	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 (d.c.)	I_B max.	100	mA
Base current (peak value)	I_{BM} max.	200	mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$	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

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

CHARACTERISTICS

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

Collector cut-off current

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

$$I_{CB0} < 100\ \text{nA}$$

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

$$I_{CB0} < 5\ \mu\text{A}$$

Emitter cut-off current

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

$$I_{EB0} < 10\ \mu\text{A}$$

Base emitter voltage *

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

$$V_{BE} < 1,2\ \text{V}$$

Saturation voltage

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

$$V_{CEsat} < 700\ \text{mV}$$

D.C. current gain

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

$$h_{FE} > 40$$

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

$$h_{FE} \ 100\ \text{to}\ 600$$

BC817-16

$$h_{FE} \ 100\ \text{to}\ 250$$

BC818-16

BC817-25

$$h_{FE} \ 160\ \text{to}\ 400$$

BC818-25

BC817-40

$$h_{FE} \ 250\ \text{to}\ 600$$

BC818-40

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

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

$$f_T > 100\ \text{MHz}$$

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

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

$$C_c \ \text{typ.} \ 5\ \text{pF}$$

Notes

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