

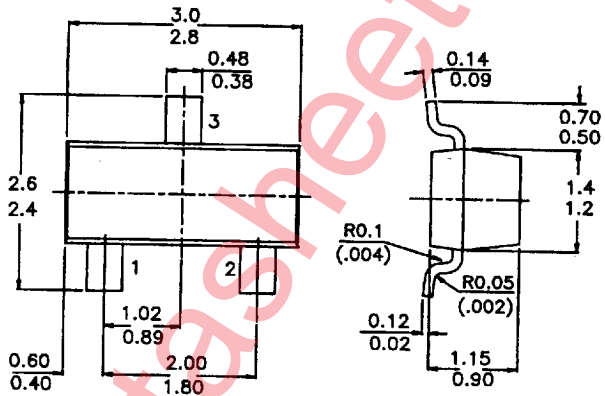
SILICON PLANAR EPITAXIAL TRANSISTORS

N-P-N transistors

Marking

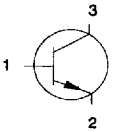
- BC817 = 6D
- BC817-16 = 6A
- BC817-25 = 6B
- BC817-40 = 6C
- BC818 = 6H
- BC818-16 = 6E
- BC818-25 = 6F
- BC818-40 = 6G

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 $T_{amb} = 25^\circ C$	P_{tot} max.	250	mW
Junction temperature	T_j max.	150	$^\circ C$
Transition frequency at $f = 100$ MHz $I_C = 10$ mA; $V_{CE} = 5$ V	f_T >	100	MHz

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)			
$I_C = 10\text{ mA}$			
Emitter-base voltage (open collector)	V_{CE0} max.	45	25 V
Collector current (d.c.)	V_{EB0} max.	5	5 V
Collector current (peak value)	I_C max.	500	mA
Emitter current (peak value)	I_{CM} max.	1000	mA
Base current (d.c.)	$-I_{EM}$ max.	1000	mA
Base current (peak value)	I_B max.	100	mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$	I_{BM} max.	200	mA
Storage temperature	P_{tot} max.	250	mW
Junction temperature	T_{stg}	-55 to +150	$^\circ\text{C}$
	T_j max.	150	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient

$$R_{th\ j-a} = 500\text{ K/W}$$

CHARACTERISTICS

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

Collector cut-off current

$$I_E = 0; V_{CB} = 20\text{ V}; T_j = 25^\circ\text{C} \quad I_{CB0} < 100\text{ nA}$$

$$I_E = 0; V_{CB} = 20\text{ V}; T_j = 150^\circ\text{C} \quad I_{CB0} < 5\text{ }\mu\text{A}$$

Emitter cut-off current

$$I_C = 0; V_{EB} = 5\text{ V} \quad I_{EB0} < 10\text{ }\mu\text{A}$$

Base emitter voltage *

$$I_C = 500\text{ mA}; V_{CE} = 1\text{ V} \quad V_{BE} < 1.2\text{ V}$$

Saturation voltage

$$I_C = 500\text{ mA}; I_B = 50\text{ mA} \quad V_{CEsat} < 700\text{ mV}$$

D.C. current gain

$$I_C = 500\text{ mA}; V_{CE} = 1\text{ V} \quad h_{FE} > 40$$

$$I_C = 100\text{ mA}; V_{CE} = 1\text{ V}; \text{BC817/BC818} \quad h_{FE} \quad 100\text{ to }600$$

$$\text{BC817-16} \quad h_{FE} \quad 100\text{ to }250$$

$$\text{BC818-16}$$

$$\text{BC817-25} \quad h_{FE} \quad 160\text{ to }400$$

$$\text{BC818-25}$$

$$\text{BC817-40} \quad h_{FE} \quad 250\text{ to }600$$

$$\text{BC818-40}$$

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

$$I_C = 10\text{ mA}; V_{CE} = 5\text{ V} \quad f_T > 100\text{ MHz}$$

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

$$I_E = I_c = 0; V_{CB} = 10\text{ V} \quad C_c \text{ typ. } 5\text{ pF}$$

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