

SILICON PLANAR EPITAXIAL TRANSISTORS

P-N-P transistors

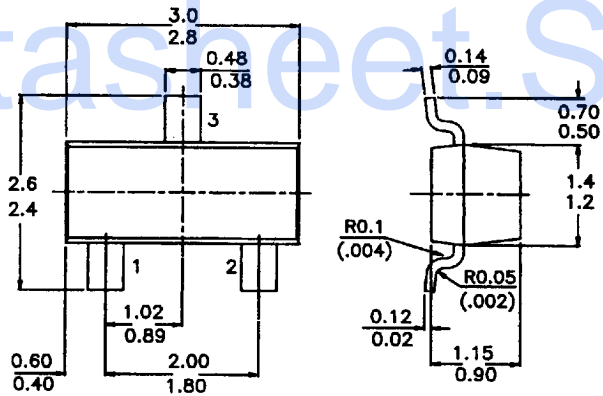
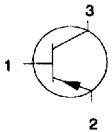
Marking

BCX17 = T1
BCX18 = T2

PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm

Pin configuration

1 = BASE
2 = EMITTER
3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

		BCX17	BCX18
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 $T_{amb} = 25^\circ\text{C}$	P_{tot} max.	250	mW
Junction temperature	T_j max.	150	$^\circ\text{C}$
D.C. current gain	h_{FE}	100 to 600	
Transition frequency	f_T typ.	100	MHz
$-I_C = 100\text{ mA}; -V_{CE} = 1\text{ V}$			
$-I_C = 10\text{ mA}; -V_{CE} = 5\text{ V}; f = 35\text{ MHz}$			

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

Limiting values

		BCX17	BCX18
Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$ max.	50	30 V
Collector-emitter voltage $-I_C = 10$ mA (see Fig. 2)	$-V_{CE0}$ max.	45	25 V
Emitter-base voltage (open collector)	$-V_{EBO}$ 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

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

CHARACTERISTICS

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

Collector cut-off current

$$I_E = 0; -V_{CB} = 20\ \text{V}$$

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

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

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

Emitter cut-off current

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

$$-I_{EBO} < 10\ \mu\text{A}$$

Base-emitter voltage

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

$$-V_{BE} < 1.2\ \text{V}$$

Saturation voltage

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

$$-V_{CEsat} < 620\ \text{mV}$$

D.C. current gain

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

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

$$-I_C = 300\ \text{mA}; -V_{CE} = 1\ \text{V}$$

$$h_{FE} > 70$$

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

$$h_{FE} > 40$$

Transition frequency at $f = 35\ \text{MHz}$

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

$$f_T \quad \text{typ.} \quad 100\ \text{MHz}$$

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

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

$$C_c \quad \text{typ.} \quad 8\ \text{pF}$$

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