SEMICONDUCTOR

DATA SHEET

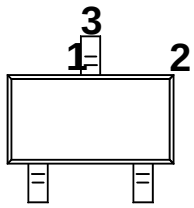
BCX17 Thru BCX20

General Purpose Transistors

PNP:BCX17;BCX18

NPN:BCX19;BCX20

SOT–23 (TO–236AB)

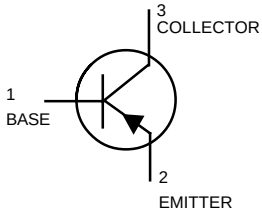


FEATURE

Pb-Free Package is available.

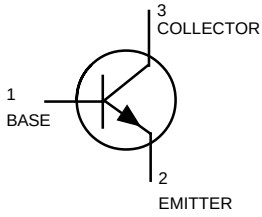
ORDERING INFORMATION

Device	Package	Shipping
BCX17	SOT-23	3000/Tape&Reel
BCX18	SOT-23	3000/Tape&Reel
BCX19	SOT-23	3000/Tape&Reel
BCX20	SOT-23	3000/Tape&Reel



MAXIMUM RATINGS

Rating	Symbol	Value		Unit
		BCX17 BCX19	BCX18 BCX20	
Collector–Emitter Voltage	V_{CEO}	45	25	Vdc
Collector–Base Voltage	V_{CBO}	50	30	Vdc
Emitter–Base Voltage	V_{EBO}	5.0	5.0	Vdc
Collector Current — Continuous	I_C	500	500	mAdc



DEVICE MARKING

BCX17= T1; BCX18 = T2; BCX19 = U1; BCX20 = U2

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR– 5 Board, (1) T_A = 25°C	P_D	225	mW
Derate above 25°C		1.8	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate, (2) T_A = 25°C	P_D	300	mW
Derate above 25°C		2.4	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	T_J , T_{stg}	–55 to +150	°C

1. FR–5 = 1.0 x 0.75 x 0.062 in.
2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

ELECTRICAL CHARACTERISTICS

BCX17 Thru BCX20

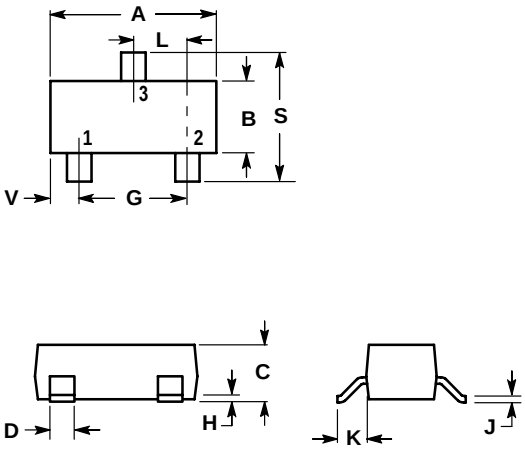
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Collector–Emitter Breakdown Voltage		$V_{(BR)CEO}$				Vdc
(I_C = 10 mAdc, I_B = 0)	BCX17, 19		45	—	—	
	BCX18, 20		25	—	—	
Collector–Emitter Breakdown Voltage		$V_{(BR)CES}$				Vdc
(I_C = 10 μAdc, I_C = 0)	BCX17, 19		50	—	—	
	BCX18, 20		30	—	—	
Collector Cutoff Current		I_{CBO}				
(V_{CB} = 20 Vdc, I_E = 0)			—	—	100	nAdc
(V_{CB} = 20 Vdc, I_E = 0, T_A = 150°C)			—	—	5.0	μAdc
Emitter Cutoff Current		I_{EBO}	—	—	10	μAdc
(V_{EB} = 5.0 Vdc, I_C = 0)						
ON CHARACTERISTICS						
DC Current Gain		h_{FE}				—
(I_C= 100 mAdc, V_{CE} = 1.0 Vdc)			100	—	600	
(I_C= 300 mAdc, V_{CE} = 1.0 Vdc)			70	—	—	
(I_C= 500 mAdc, V_{CE} = 1.0 Vdc)			40	—	—	
Collector–Emitter Saturation Voltage		$V_{CE(sat)}$	—	—	0.62	Vdc
(I_C = 500mAdc, I_B = 50mAdc)						
Base–Emitter On Voltage		$V_{BE(on)}$	—	—	1.2	Vdc
(I_C = 500 mAdc, V_{CE} = 1.0 Vdc)						

PACKAGE OUTLINE & DIMENSIONS

BCX17 Thru BCX20

SOT-23



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60