

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	45	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	Vdc
Collector Current — Continuous	I_C	100	mAdc

THERMAL CHARACTERISTICS

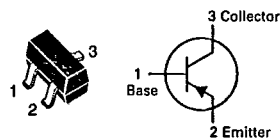
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,* $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225	mW
		1.8	mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate,** $T_A = 25^\circ\text{C}$ Derate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

*FR-5 = 1.0 x 0.75 x 0.062 in.

**Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

DEVICE MARKING

BCW69L = H1; BCW70L = H2

BCW69L
BCW70LCASE 318-03, STYLE 6
SOT-23 (TO-236AB)GENERAL PURPOSE
TRANSISTORS

PNP SILICON

Refer to 2N5086 for graphs.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage ($I_C = 2.0$ mA, $I_B = 0$)	$V_{(BR)CEO}$	45	—	Vdc
Collector-Emitter Breakdown Voltage ($I_C = 100$ μA , $V_{EB} = 0$)	$V_{(BR)CES}$	50	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10$ μA , $I_C = 0$)	$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current ($V_{CB} = 20$ Vdc, $I_E = 0$) ($V_{CB} = 20$ Vdc, $I_E = 0$, $T_A = 100^\circ\text{C}$)	I_{CBO}	—	100 10	nA μA
ON CHARACTERISTICS				
DC Current Gain ($I_C = 2.0$ mA, $V_{CE} = 5.0$ Vdc)	h_{FE}	120 215	260 500	—
Collector-Emitter Saturation Voltage ($I_C = 10$ mA, $I_B = 0.5$ mA)	$V_{CE(sat)}$	—	0.3	Vdc
Base-Emitter On Voltage ($I_C = 2.0$ mA, $V_{CE} = 5.0$ Vdc)	$V_{BE(on)}$	0.6	0.75	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Output Capacitance ($I_E = 0$, $V_{CB} = 10$ Vdc, $f = 1.0$ MHz)	C_{obo}	—	7.0	pF
Noise Figure ($I_C = 0.2$ mA, $V_{CE} = 5.0$ Vdc, $R_S = 2.0$ k Ω , $f = 1.0$ kHz, BW = 200 Hz)	NF	—	10	dB