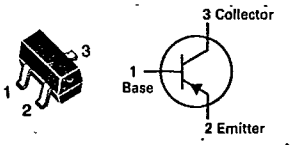
BCX71GL, JL, KL

CASE 318-03, STYLE 6
SOT-23 (TO-236AB)



GENERAL PURPOSE TRANSISTORS

PNP SILICON

MAXIMUM RATINGS

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

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,* T_A = 25°C Derate above 25°C	P_D	225 1.8	mW mW/°C
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate,** T_A = 25°C Derate above 25°C	P_D	300 2.4	mW 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

*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

BCX71GL = BG; BCX71JL = BJ; BCX71KL = BK

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I_C = 2.0 mAdc, I_B = 0)		$V_{(BR)CEO}$	45	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 1.0 μAdc, I_C = 0)		$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current (V_{CE} = 32 Vdc) (V_{CE} = 32 Vdc, T_A = 150°C)		I_{CES}	— —	20 20	nAdc μAdc
ON CHARACTERISTICS					
DC Current Gain		h_{FE}			—
(I_C = 10 μAdc, V_{CE} = 5.0 Vdc)	BCX71GL		—	—	
	BCX71JL		40	—	
	BCX71KL		100	—	
(I_C = 2.0 mAdc, V_{CE} = 5.0 Vdc)	BCX71GL		120	220	
	BCX71JL		250	460	
	BCX71KL		380	630	
(I_C = 50 mAdc, V_{CE} = 1.0 Vdc)	BCX71GL		60	—	
	BCX71JL		100	—	
	BCX71KL		110	—	
(I_C = 2.0 mAdc, V_{CE} = 5.0 Vdc, f = 1.0 kHz)	BCX71GL		125	250	
	BCX71JL		250	500	
	BCX71KL		350	700	
Collector-Emitter Saturation Voltage (I_C = 10 mAdc, I_B = 0.25 mAdc) (I_C = 50 mAdc, I_B = 1.25 mAdc)		$V_{CE(sat)}$	— —	0.25 0.55	Vdc
Base-Emitter Saturation Voltage (I_C = 10 mAdc, I_B = 0.25 mAdc) (I_C = 50 mAdc, I_B = 1.25 mAdc)		$V_{BE(sat)}$	0.6 0.68	0.85 1.05	Vdc
Base-Emitter On Voltage (I_C = 2.0 mAdc, V_{CE} = 5.0 Vdc)		$V_{BE(on)}$	0.6	0.75	Vdc
Output Capacitance (V_{CE} = 10 Vdc, I_C = 0, f = 1.0 MHz)		C_{obo}	—	6.0	pF
Noise Figure (I_C = 0.2 mAdc, V_{CE} = 5.0 Vdc, R_S = 2.0 kΩ, f = 1.0 kHz, BW = 200 Hz)		NF	—	6.0	dB
SWITCHING CHARACTERISTICS					
Turn-On Time (I_C = 10 mAdc, I_{B1} = 1.0 mAdc)		t_{on}	—	150	ns
Turn-Off Time (I_{B2} = 1.0 mAdc, V_{BB} = 3.6 Vdc, R1 = R2 = 5.0 kΩ, R_L = 990 Ω)		t_{off}	—	800	ns