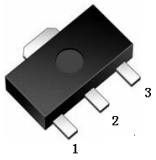
BCX51/52/53 (PNP)

FEATURES

- IC = -1A Continuous Collector Current
- Low Saturation Voltage VCE(sat) < -500mV @ -0.5A
- Epitaxial Planar Die Construction
- Complementary NPN types: BCX54, 55, and 56



1. BASE
2. COLLECTO
3. EMITTER

SOT-89

Product	BCX51	BCX51-10	BCX51-16	BCX52	BCX52-10	BCX52-16	BCX53	BCX53-10	BCX53-16
Marking	AA	AC	AD	AE	AG	AM	AH	AK	AL

Maximum Ratings (Ta=25 ℃ unless otherwise noted)

Characteristic	Symbol	BCX51	BCX52	BCX53	Unit
Collector-Base Voltage	V_{CBO}	-45	-60	-100	V
Collector-Emitter Voltage	V_{CEO}	-45	-60	-80	V
Emitter-Base Voltage	V_{EBO}	-5			V
Continuous Collector Current	I_C	-1			A
Peak Pulse Collector Current	I_{CM}	-1.5			
Continuous Base Current	I_B	-100			mA
Peak Pulse Base Current	I_{BM}	-200			
Power Dissipation (Note 1)	PD	1			W
Operating and Storage Temperature Range	TJ, TSTG	-65 to +150			℃

ELECTRICAL CHARACTERISTICS (@ Ta=25 ℃ unless otherwise specified)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BCX51	BV_{CBO}	-45	-	-	V	I_C = -100μA
	BCX52		-60				
	BCX53		-100				
Collector-Emitter Breakdown Voltage (Note 2)	BCX51	BV_{CEO}	-45	-	-	V	I_C = -10mA
	BCX52		-60				
	BCX53		-80				
Emitter-Base Breakdown Voltage		BV_{EBO}	-5	-	-	V	I_E = -10μA
Collector Cut-off Current		I_{CBO}	-	-	-0.1 -20	μA	V_{CB} = -30V V_{CB} = -30V, T_A = 150°C
Emitter Cut-off Current		I_{EBO}	-	-	-20	nA	V_{EB} = -4V
Static Forward Current Transfer Ratio (Note 2)	All versions	h_{FE}	25 40 25	- - -	- 250 -		I_C = -5mA, V_{CE} = -2V I_C = -150mA, V_{CE} = -2V I_C = -500mA, V_{CE} = -2V
	10 gain grp		63	-	160		I_C = -150mA, V_{CE} = -2V
	16 gain grp		100	-	250		I_C = -150mA, V_{CE} = -2V
Collector-Emitter Saturation Voltage (Note 2)		$V_{CE(sat)}$	-	-	-0.5	V	I_C = -500mA, I_B = -50mA
Base-Emitter Turn-On Voltage (Note 2)		$V_{BE(on)}$	-	-	-1.0	V	I_C = -500mA, V_{CE} = -2V
Transition Frequency		f_T	150	-	-	MHz	I_C = -50mA, V_{CE} = -10V f = 100MHz
Output Capacitance		Cobo	-	-	25	pF	V_{CB} = -10V, f = 1MHz

Notes: 1. For a device surface mounted on 25 mm X 25mm FR4 PCB with high coverage of single sided 1 oz copper, in still air conditions; the device is measured when operating in a steady-state condition.
Notes: 2. Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%.

BCX51/52/53 Typical Characteristics

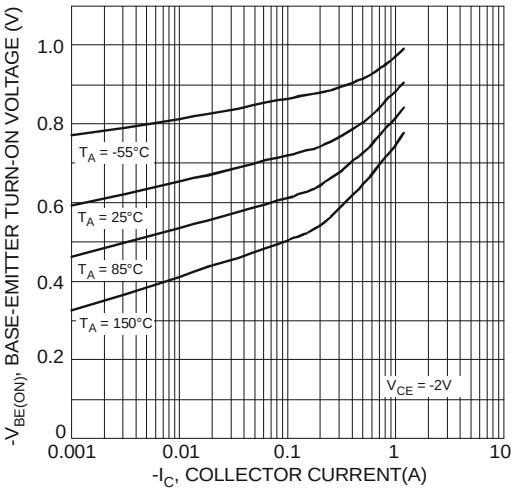


Fig 3 Typical Base-Emitter Turn-On Voltage vs. Collector Current

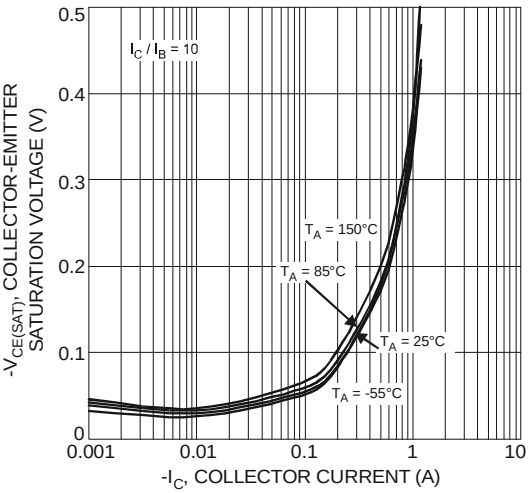


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

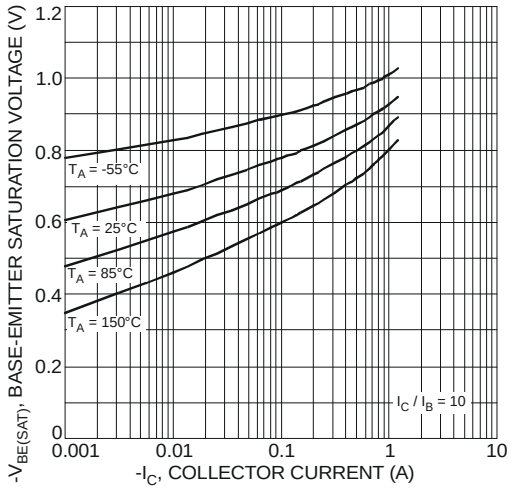


Fig. 5 Typical Base-Emitter Saturation Voltage vs. Collector Current

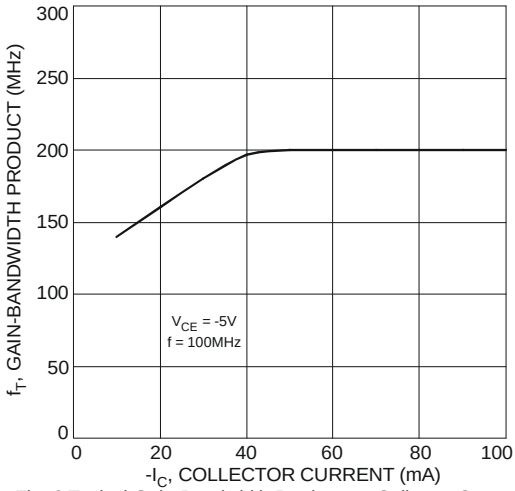


Fig. 6 Typical Gain-Bandwidth Product vs. Collector Current

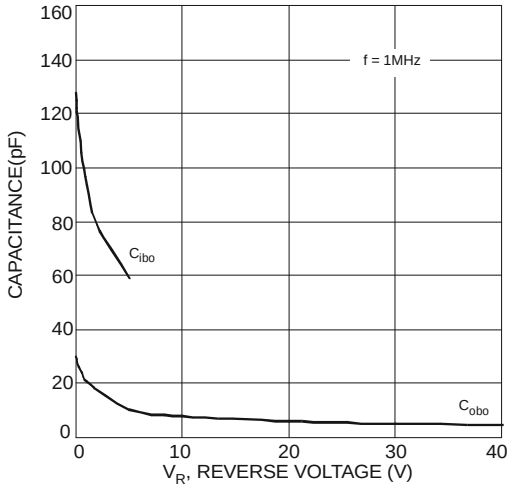


Fig. 7 Typical Capacitance Characteristics

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