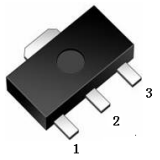
BCX54/55/56 (NPN)

FEATURES

- Ic = 1A Continuous Collector Current
- Low Saturation Voltage VCE(sat) < 500mV @ 0.5A
- Epitaxial Planar Die Construction
- Complementary PNP types: BCX51, 52 and 53
- Halogen and Antimony Free. "Green" Devices



1. BASE
2. COLLECTO
3. EMITTER

SOT-89

Product	BCX54	BCX54-10	BCX54-16	BCX55	BCX55-10	BCX55-16	BCX56	BCX56-10	BCX56-16
Marking	BA	BC	BD	BE	BG	BM	BH	BK	BL

Maximum Ratings (Ta=25 ℃ unless otherwise noted)

Characteristic	Symbol	BCX54	BCX55	BCX56	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			A
Peak Pulse Base Current	I_{BM}	200			
Power Dissipation (Note 1)	PD	1			W
Thermal Resistance, Junction to Ambient)	RθJA	124			°C/W
Operating and Storage Temperature Range	TJ, TSTG	-65 to +150			°C

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

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BCX54	BVCBO	45	-	-	V	IC = 100μA
	BCX55		60				
	BCX56		100				
Collector-Emitter Breakdown Voltage (Note 2)	BCX54	BVCEO	45	-	-	V	IC = 10mA
	BCX55		60				
	BCX56		80				
Emitter-Base Breakdown Voltage		BVEBO	5	-	-	V	IE = 10μA
Collector Cut-off Current		ICBO	-	-	0.1	μA	VCB = 30V
					20		VCB = 30V, TA = 150°C
Emitter Cut-off Current		IEBO	-	-	20	nA	VEB = 4V
Static Forward Current Transfer Ratio (Note 2)	All versions	hFE	25	-	-		IC = 5mA, VCE = 2V
			40	-	250		IC = 150mA, VCE = 2V
			25	-	-		IC = 500mA, VCE = 2V
	10 gain grp		63	-	160		IC = 150mA, VCE = 2V
	16 gain grp		100	-	250		IC = 150mA, VCE = 2V
Collector-Emitter Saturation Voltage (Note 2)		VCE(sat)	-	-	0.5	V	IC = 500mA, IB = 50mA
Base-Emitter Turn-On Voltage (Note 2)		VBE(on)	-	-	1.0	V	IC = 500mA, VCE = 2V
Transition Frequency		fT	150	-	-	MHz	IC = 50mA, VCE = 10V
							f = 100MHz
Output Capacitance		Cobo	-	-	25	pF	VCB = 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%.

BCX54/55/56 Typical Characteristics

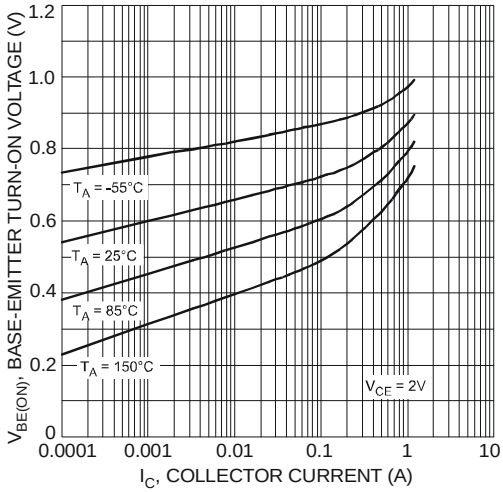


Fig. 3 Typical Base-Emitter Turn-On Voltage vs. Collector Current

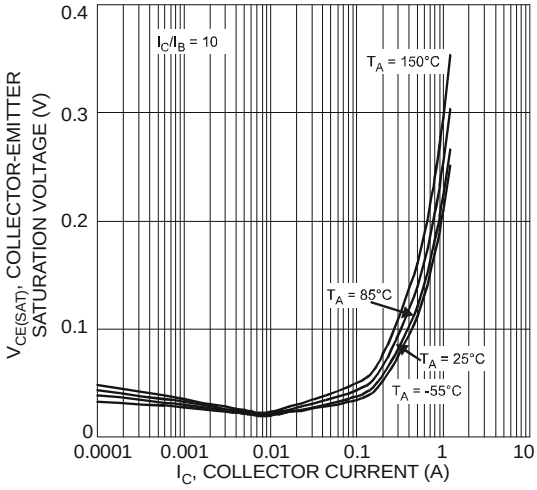


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

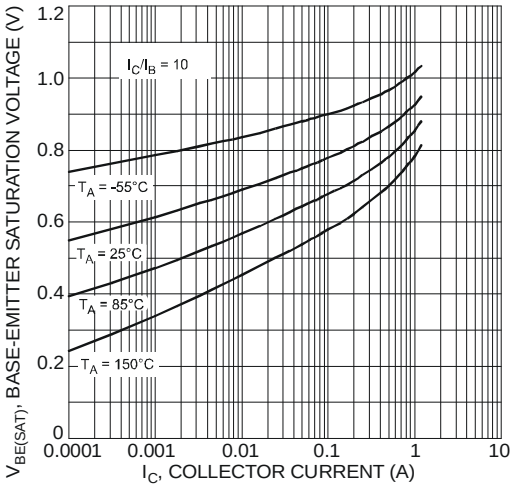


Fig. 5 Typical Base-Emitter Saturation Voltage vs. Collector Current

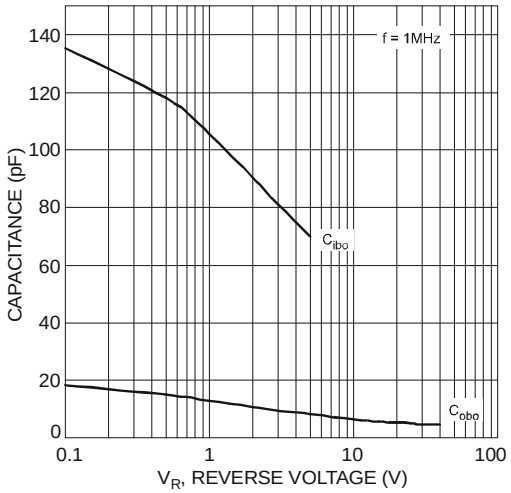


Fig. 6 Typical Capacitance Characteristics

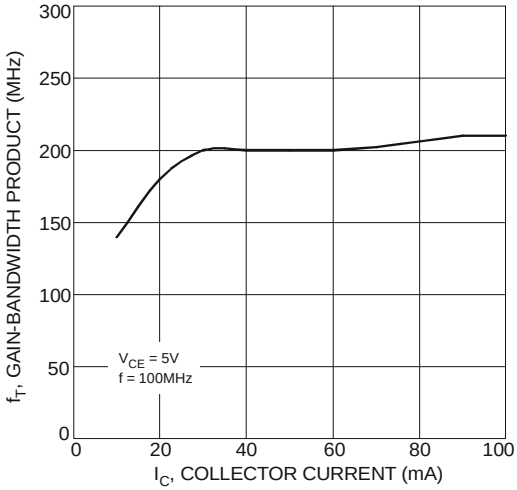


Fig. 7 Typical Gain-Bandwidth Product vs. Collector Current