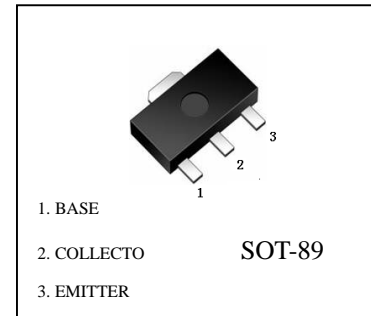


BCX51/52/53 (PNP)
FEATURES

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



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 °C 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	IC	-1			A
Peak Pulse Collector Current	ICM	-1.5			
Continuous Base Current	IB	-100			mA
Peak Pulse Base Current	IBM	-200			
Power Dissipation (Note 1)	PD	1			W
Operating and Storage Temperature Range	TJ, TSTG	-65 to +150			°C

ELECTRICAL CHARACTERISTICS (@ Ta=25 °C unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV_{CBO}	-45 -60 -100	-	-	V	$I_C = -100\mu A$
Collector-Emitter Breakdown Voltage (Note 2)	BV_{CEO}	-45 -60 -80	-	-	V	$I_C = -10mA$
Emitter-Base Breakdown Voltage	BV_{EBO}	-5	-	-	V	$I_E = -10\mu A$
Collector Cut-off Current	I_{CBO}	-	-	-0.1 -20	μA	$V_{CB} = -30V$ $V_{CB} = -30V, T_A = 150^\circ C$
Emitter Cut-off Current	I_{EBO}	-	-	-20	nA	$V_{EB} = -4V$
Static Forward Current Transfer Ratio (Note 2)	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	C_{obo}	-	-	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 $\leq 300\mu s$. Duty cycle $\leq 2\%$.

BCX51/52/53 Typical Characteristics

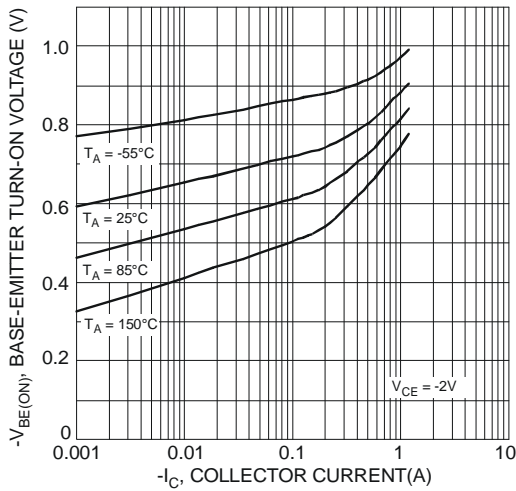


Fig 3 Typical Base-Emitter Turn-On Voltage vs. Collector Current

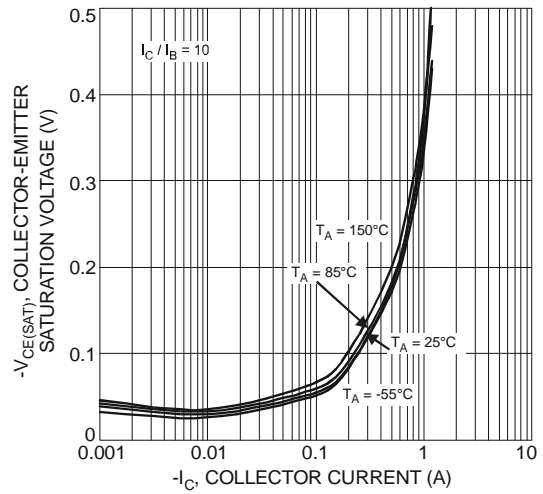


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

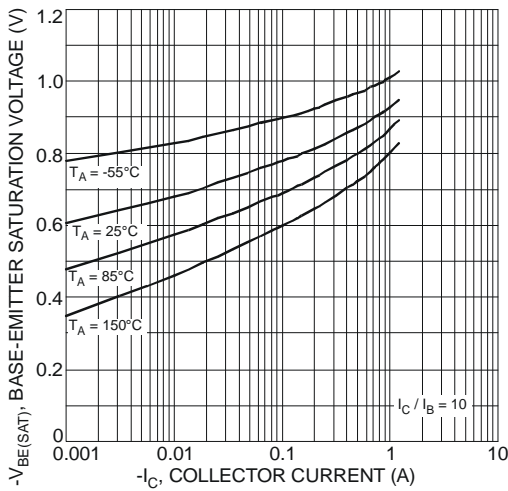


Fig. 5 Typical Base-Emitter Saturation Voltage vs. Collector Current

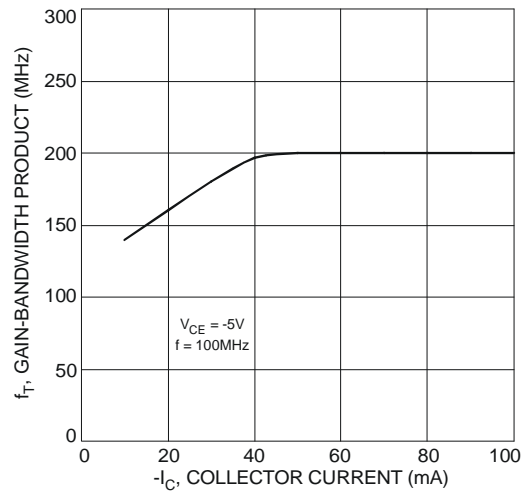


Fig. 6 Typical Gain-Bandwidth Product vs. Collector Current

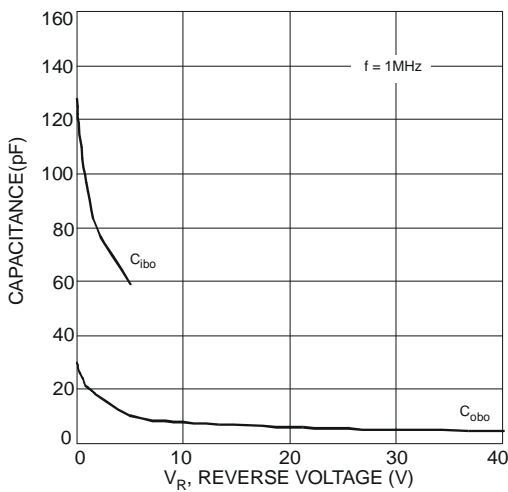


Fig. 7 Typical Capacitance Characteristics