FEATURES

The BCX53 is available in SOT89-3 package.

- High current
- Three current gain selections
- High power dissipation capability

APPLICATION

- Linear voltage regulators
- High-side switches
- Battery-driven devices
- Power management
- MOSFET drivers
- Amplifiers

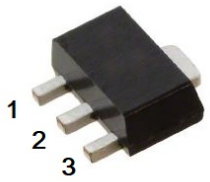
ORDERING INFORMATION

Package Type	Part Number
SOT89-3	BCX53
	BCX53-10L
	BCX53-16L
Note	SPQ: 1,000pcs/Reel
AiT provides all RoHS Compliant Products	

CLASSIFICATION OF h_{FE}

Part Number	h_{FE} Range
BCX53	63-250
BCX53-10L	63-160
BCX53-16L	100-250

PIN DESCRIPTION



PIN#	DESCRIPTION
1	BASE
2	COLLECTOR
3	EMITTER

ABSOLUTE MAXIMUM RATINGS

V_{CEO}, Collector-Emitter Voltage	I_B=0	-80V
V_{CBO}, Collector-Base Voltage	I_E=0	-100V
V_{EBO}, Emitter-Base Voltage	I_C=0	-5V
I_C, Collector Current		-1A
P_{tot}, Total Power Dissipation *	T_A = 25°C	1W
T_{jm}, Max Junction Temperature		150℃
T_{STG}, Storage Temperature		-55℃ ~ + 150℃

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

*mounted on printed circuit board.

ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0		-80	-	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0		-100	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0		-5	-	-	V
Forward Current Transfer Ratio *	h_{FE1}	V_{CE} = 2V, I_C = 150mA		63	-	250	-
Collector-Base Cutoff Current	I_{CBO}	V_{CB} = 30V, I_E = 0		-	-	-0.1	μA
Collector-Emitter Saturation Voltage *	$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA		-	-	-0.5	V
Base-Emitter Voltage	V_{BE}	I_C = 500mA, I_B = 50mA	BCX53	-	-0.9	-	V
			BCX53-10L	-	-1.0	-	
			BCX53-16L	-	-1.2	-	
Transition Frequency	f_T	I_C = 10mA, V_{CE} = 5V, f = 100MHz		-	50	-	MHz

* pulse method：tw:300μs，duty ratio≤2%

TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Static Characteristic

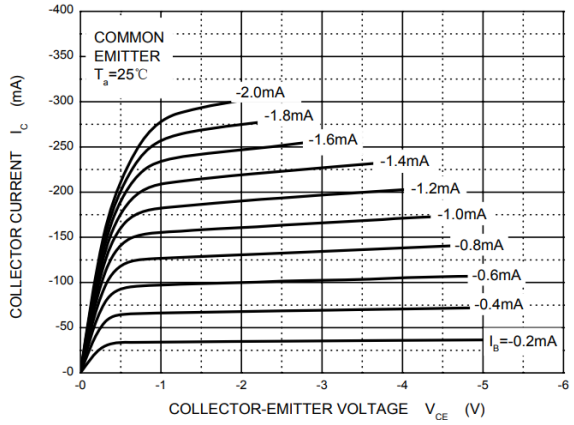


Fig 2. h_{FE} vs. I_C

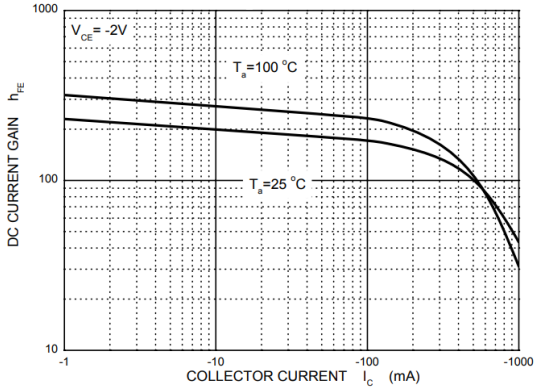


Fig 3. V_{BEsat} vs. I_C

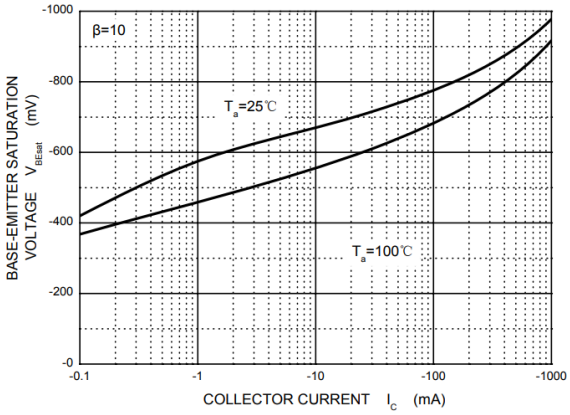


Fig 4. V_{CEsat} vs. I_C

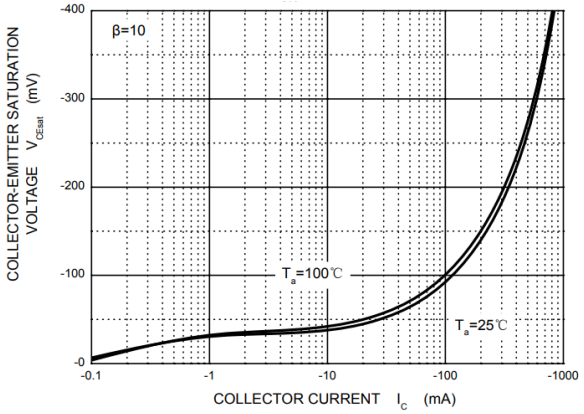


Fig 5. f_T vs. I_C

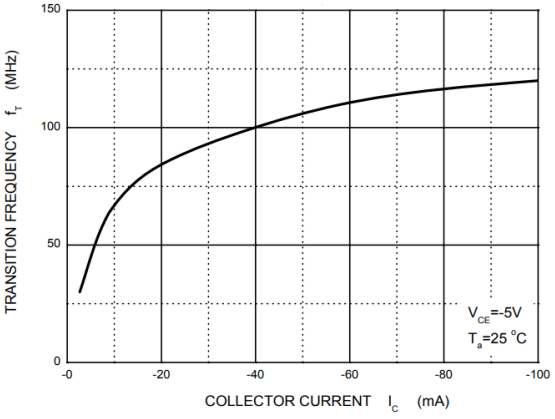


Fig 6. C_{ob} / C_{ib} vs. V_{CB} / V_{EB}

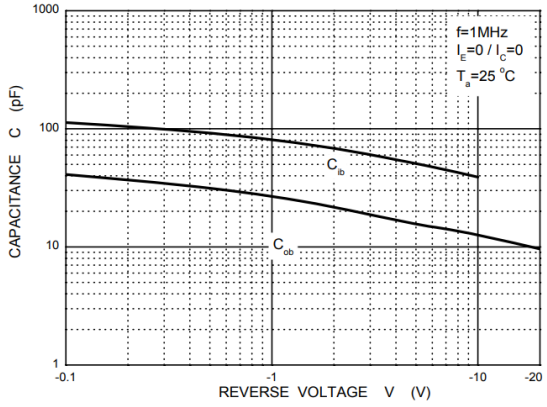


Fig 7. I_C vs. V_{BE}

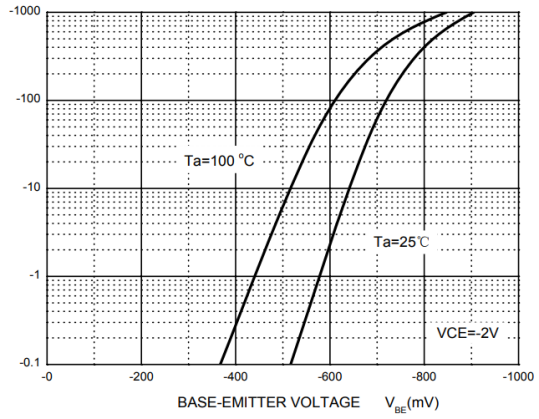
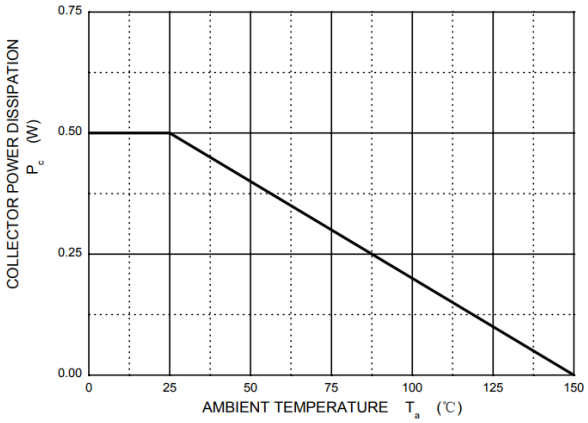
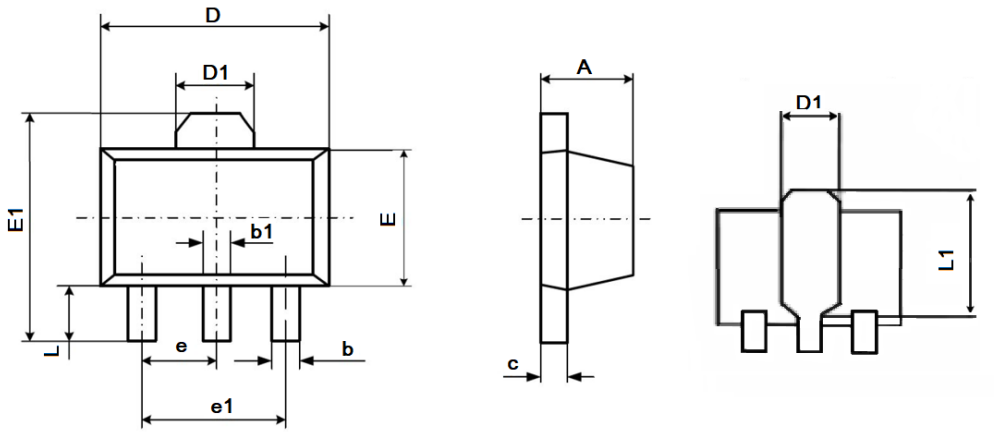


Fig 8. P_C vs. T_a



PACKAGE INFORMATION

Dimension in SOT89-3 Package (Unit: mm)



Symbol	MILLIMETERS	
	Min.	Max.
A	1.400	1.600
b	0.350	0.550
b1	0.400	0.650
c	0.350	0.450
D	4.400	4.600
D1	1.600 TYP	
E	2.350	2.550
E1	4.150 TYP	
e	1.500 TYP	
e1	3.000 TYP	
L	1.000 TYP	
L1	2.700 TYP	

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