



FEATURES

The BCX53 is available in SOT89-3 package.

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

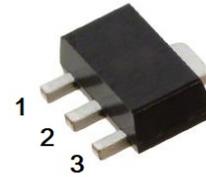
APPLICATION

- 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	

PIN DESCRIPTION



PIN#	DESCRIPTION
1	BASE
2	COLLECTOR
3	EMITTER

CLASSIFICATION OF h_{FE}

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

**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°C
T _{STG} , Storage Temperature		-55°C ~ + 150°C

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

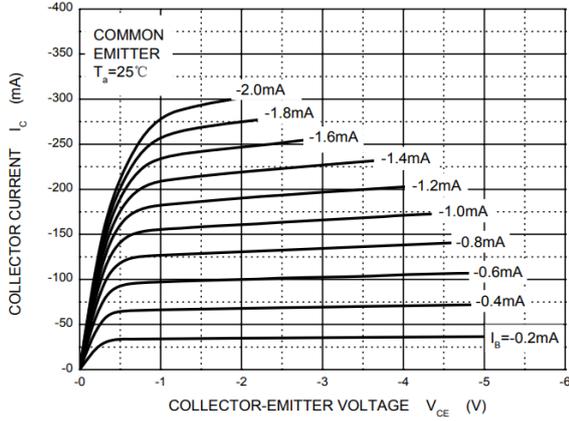


Fig 2. h_{FE} vs. I_c

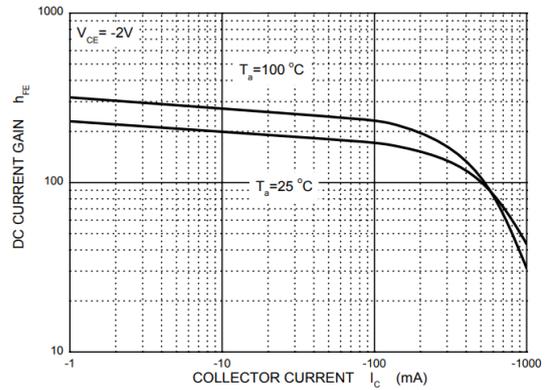


Fig 3. V_{BEsat} vs. I_c

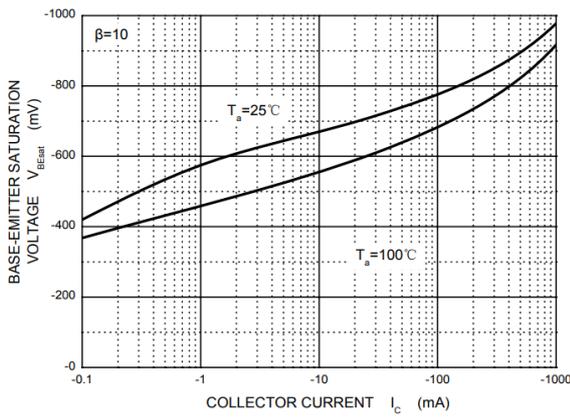


Fig 4. V_{CEsat} vs. I_c

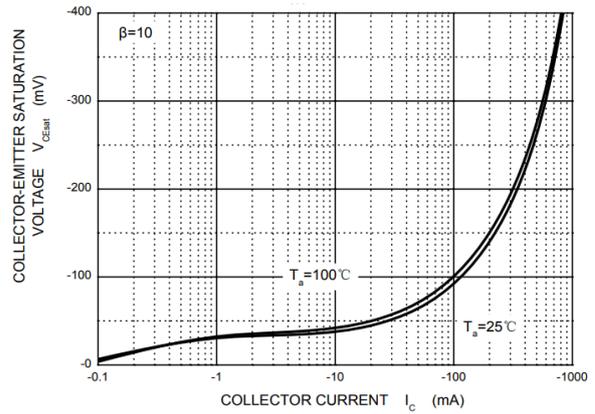


Fig 5. f_T vs. I_c

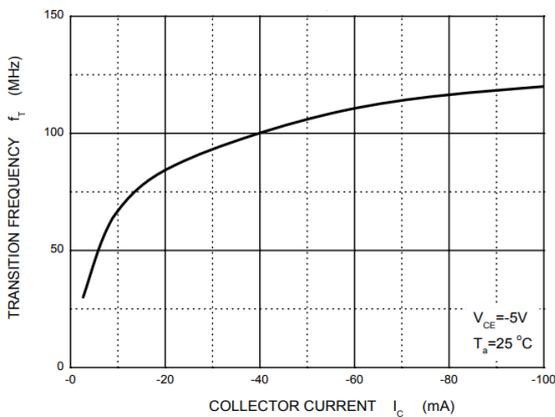


Fig 6. C_{ob} / C_{ib} vs. V_{CB} / V_{EB}

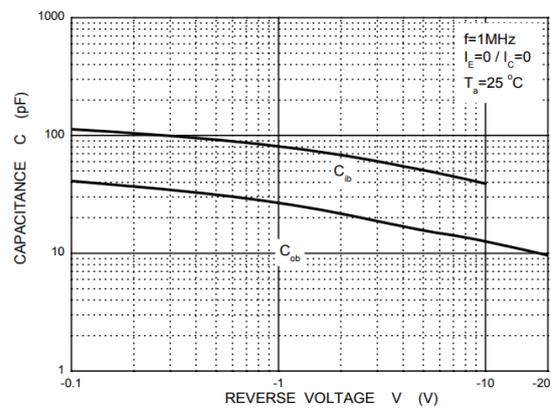




Fig 7. I_c vs. V_{BE}

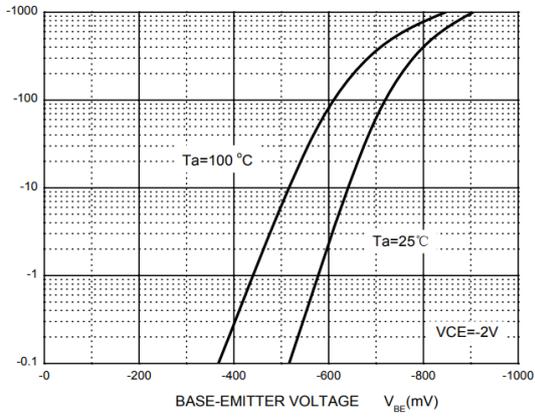
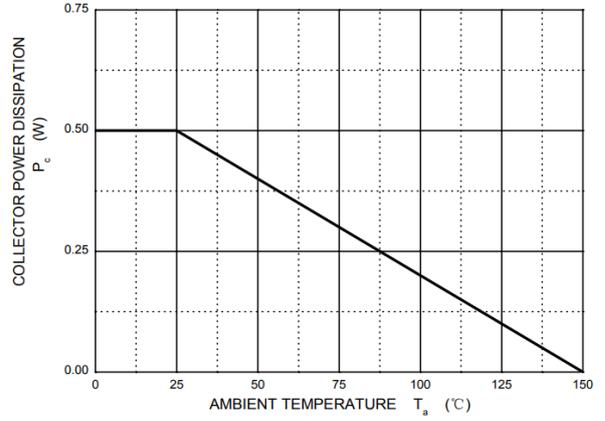


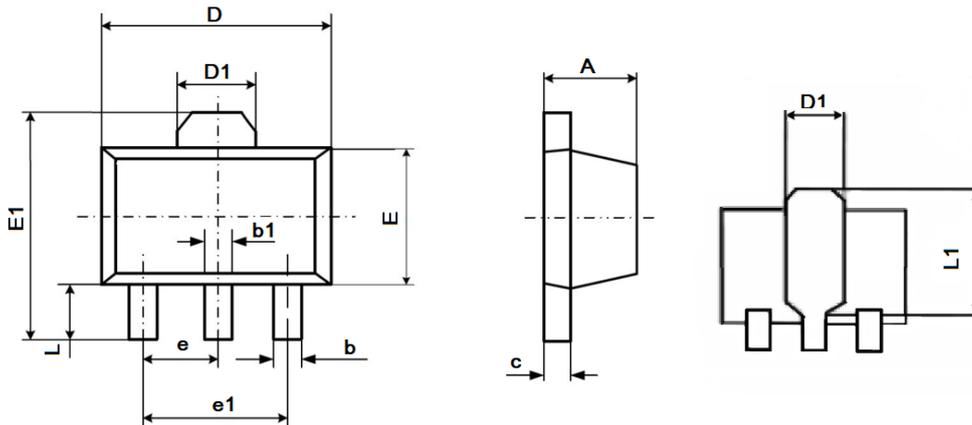
Fig 8. P_c vs. T_a





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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