

SOT-89 Plastic-Encapsulate Transistors

Features

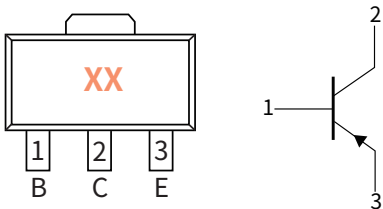
- NPN complements to BCX54,BCX55,BCX56
- Power dissipation of 500mW
- Low voltage and High current
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Mechanical Data

- Case: SOT-89
- Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

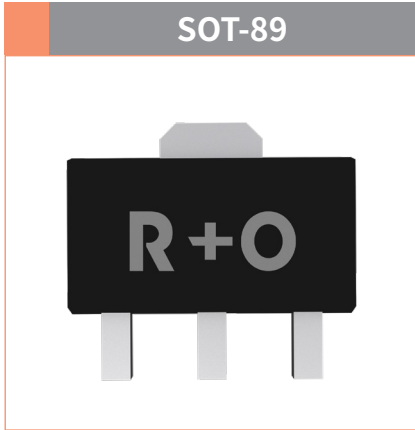
Function Diagram

XX = Device Code
AA=BCX51,AC=BCX51-10,AD=BCX51-16
AE=BCX52,AG=BCX52-10,AM=BCX52-16
AH=BCX53,AK=BCX53-10,AL=BCX53-16



Collector-Base Voltage
VCBO -45/-60/-100V

Collector Current
-1 Ampere



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDLITIONS	VALUE
Collector-Base Voltage	V _{CBO}	V	BCX51	-45
			BCX52	-60
			BCX53	-100
Collector-Emitter Voltage	V _{CEO}		BCX51	-45
			BCX52	-60
			BCX53	-80
Emitter-Base Voltage	V _{EBO}		—	-5.0
Collector Current	I _C	A	—	-1.0
Collector Power Dissipation	P _C	mW	—	500
Storage temperature	T _{stg}	°C	—	-65 ~+150
Junction temperature	T _j	°C	—	150
Typical Thermal Resistance	R _{θJ-A}	°C /W	—	250

Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-89	R1	0.055	1000	7000	21000	7"

BCX51 THRU BCX53

PNP TRANSISTORS

● Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	SYMBOL	UNIT	Condition		Min	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	$I_C=-100\mu A, I_E=0$	BCX51	-45	—
				BCX52	-60	—
				BCX53	-100	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		$I_C=-10mA, I_B=0$	BCX51	-45	—
				BCX52	-60	—
				BCX53	-80	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		$I_E=-100\mu A, I_C=0$		-5.0	—
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB}=-30V, I_E=0$	BCX51	—	-100
			$V_{CB}=-50V, I_E=0$	BCX52	—	-100
			$V_{CB}=-80V, I_E=0$	BCX53	—	-100
Emitter-Base cut-off current	I_{EBO}		$V_{EB}=-5.0V, I_C=0$		—	-100
DC Current Gain	$h_{FE(1)}$	—	$I_C=-5.0mA \quad V_{CE}=-2.0V$		63	—
DC Current Gain BCX51,BCX52,BCX53	$h_{FE(2)}$		$I_C= -150 \text{ mA} \quad V_{CE}=-2.0V$		63	250
DC Current Cain BCX51-10,BCX52-10,BCX53-10 BCX51-16,BCX52-16,BCX53-16	$h_{FE(3)}$		$I_C= -150 \text{ mA} \quad V_{CE}=-2.0V$		63	160
			$I_C= -150 \text{ mA} \quad V_{CE}=-2.0V$		100	250
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	mV	$I_C=-500mA \quad I_B=-50mA$		—	-500
Base-Emitter Voltage	V_{BE}	V	$I_C=-500mA \quad V_{CE}=-2.0V$		—	-1.0

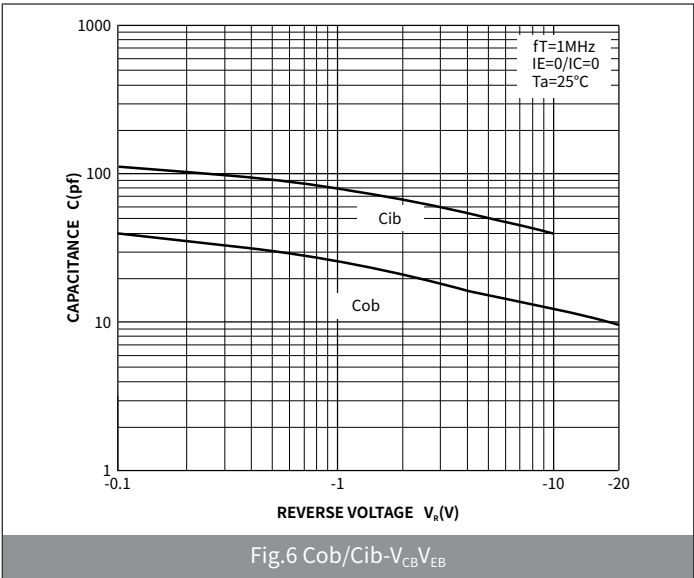
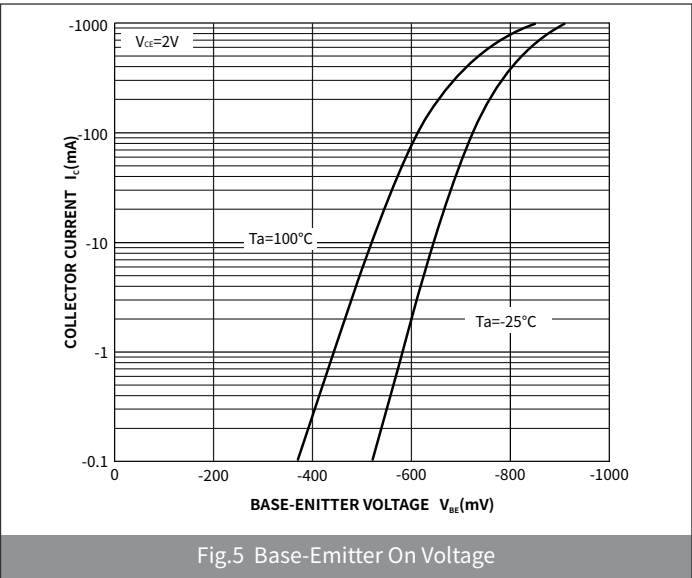
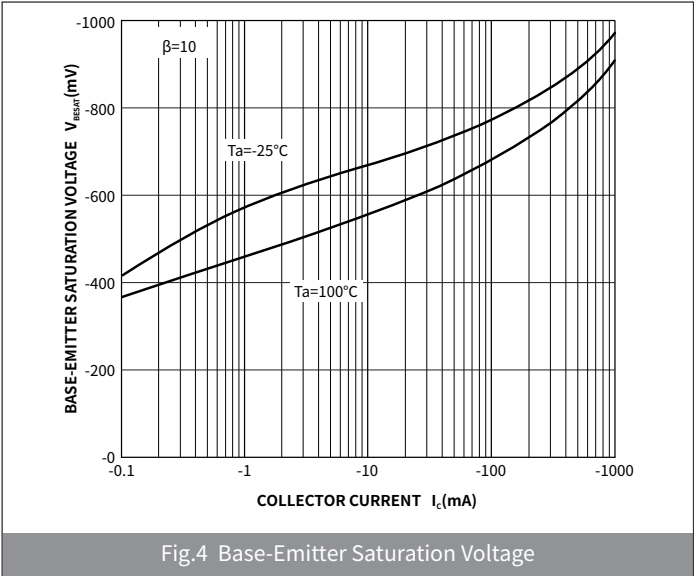
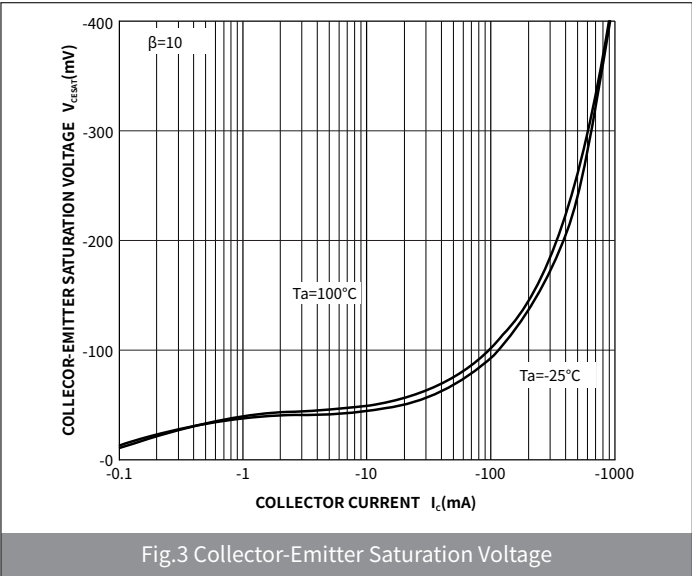
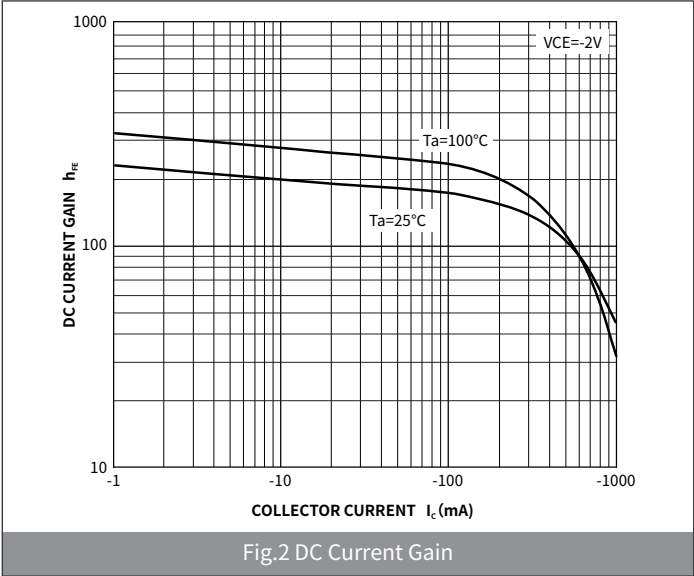
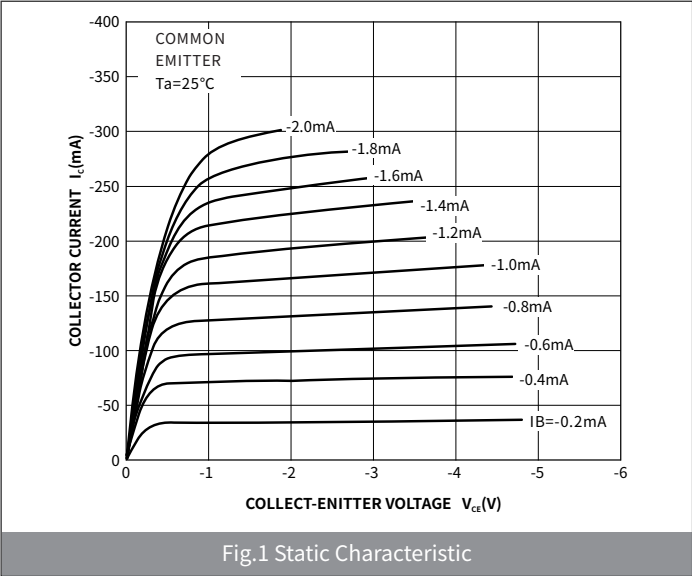
● Classification Of h_{FE}

RANK	BCX51/BCX52/BCX53	BCX51-10/BCX52-10/BCX53-10	BCX51-16/BCX52-16/BCX53-16
Range	63-250	63-160	100-250

● Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Type	Max
Transition frequency	f_T	$I_C=-10mA, V_{CE}=-5.0V$	MHz	—	50	—

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



● Package Outline Dimensions (SOT-89)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.4	4.6	0.176	0.184
B	1.6	1.8	0.064	0.072
C	3.9	4.1	0.156	0.164
D	2.4	2.6	0.096	0.104
E	2.9	3.1	0.116	0.124
a	0.41	0.43	0.0164	0.018
b	0.35	0.45	0.014	0.018
L	0.95	1.05	0.037	0.041
G	0.3	0.5	0.012	0.020
H	1.4	1.5	0.055	0.059

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
c	0.80	1.00	0.032	0.04
d	1.30	1.50	0.052	0.060
e	0.70	0.90	0.028	0.036
J	1.80	2.00	0.072	0.080
K	1.40	1.60	0.056	0.064
X	2.50	2.70	0.100	0.108
X1	1.30	1.50	0.052	0.060
Y	4.30	4.50	0.172	0.180
Y1	3.10	3.30	0.124	0.132
θ	-	45°	-	45°