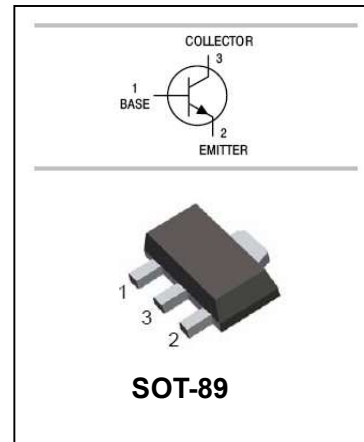


## NPN Silicon AF Transistors

## BCX54/BCX55/BCX56

### FEATURES

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- Complementary types: BCX51...BCX53(PNP)



### ORDERING INFORMATION

Type No.	Marking	Package Code
BCX54□	BA	SOT-89
BCX54-10□	BC	SOT-89
BCX54-16□	BD	SOT-89
BCX55□	BE	SOT-89
BCX55-10□	BG	SOT-89
BCX55-16□	BM	SOT-89
BCX56□	BH	SOT-89
BCX56-10□	BK	SOT-89
BCX56-16□	BL	SOT-89

□: none is for Lead Free package;

“G” is for Halogen Free package.

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	BCX54	45
		BCX55	60
		BCX56	100
V <sub>CEO</sub>	Collector-Emitter Voltage	BCX54	45
		BCX55	60
		BCX56	80
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	DC Collector Current	1	A
I <sub>CM</sub>	Peak Collector Current	1.5	A
I <sub>B</sub>	Base current	100	mA
I <sub>BM</sub>	Peak base current	200	mA
P <sub>tot</sub>	Total power dissipation T <sub>S</sub> =130°C	500	mW
T <sub>j</sub> , T <sub>stg</sub>	Junction and Storage Temperature	-65 to +150	°C
R <sub>θJA</sub>	Thermal resistance junction to ambient air	75	°C/W
R <sub>θJC</sub>	Junction-case thermal resistance	35	°C/W

## NPN Silicon AF Transistors

## BCX54/BCX55/BCX56

### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

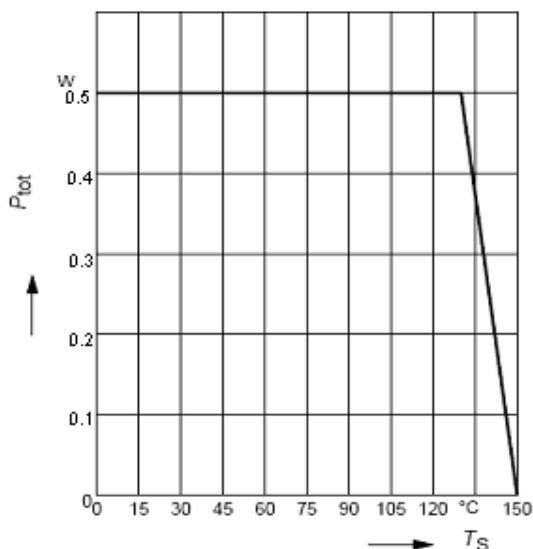
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A$ $I_B=0$ BCX54 BCX55 BCX56	45 60 100		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA$ $I_B=0$ BCX54 BCX55 BCX56	45 60 80		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A$ $I_C=0$	5		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=30V$ $I_E=0$		100	nA
		$V_{CB}=30V$ $I_E=0$ , $T_A=150^\circ C$		20	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=2V$ $I_C=5mA$	25		
		$V_{CE}=2V$ $I_C=150mA$ BCX54...56	40	250	
		$V_{CE}=2V$ $I_C=150mA$ -10 -16	63 100	160 250	
		$V_{CE}=2V$ $I_C=500mA$	25		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA$ $I_B=50mA$		0.5	V
Base-emitter voltage	$V_{BE}$	$I_C=500mA$ , $V_{CE}=2V$		1	V
Transition frequency	$f_T$	$V_{CE}=10V$ , $I_C=50mA$ , $f=20MHz$	100		MHz

# NPN Silicon AF Transistors

# BCX54/BCX55/BCX56

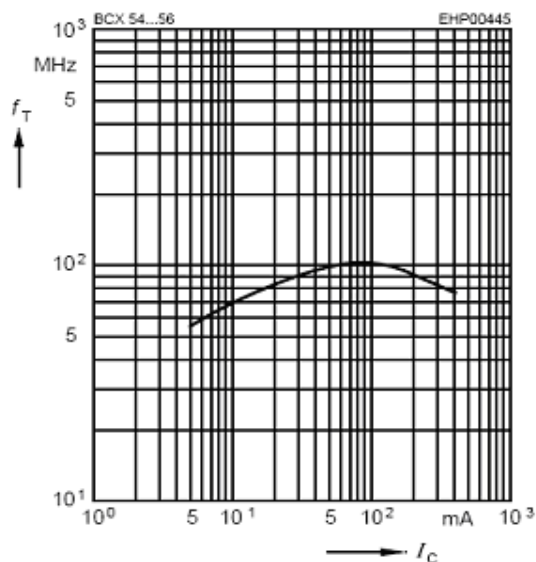
TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

Total power dissipation  $P_{\text{tot}} = f(T_S)$



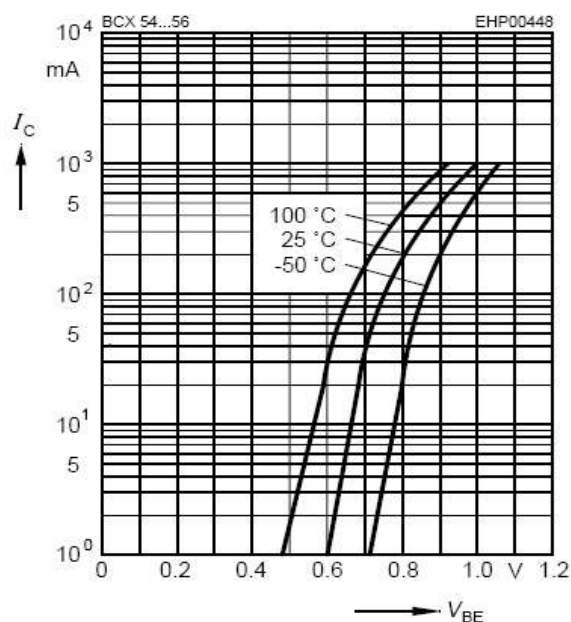
Transition frequency  $f_T = f(I_C)$

$V_{CE} = 10\text{V}$



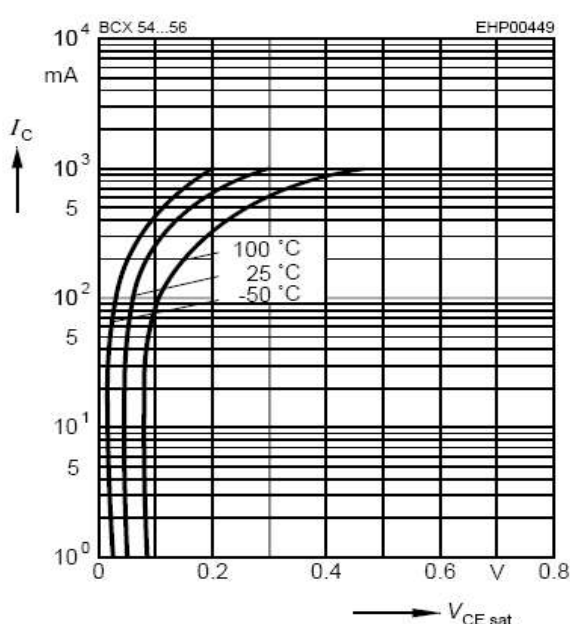
Collector current  $I_C = f(V_{BE})$

$V_{CE} = 2\text{V}$



Collector-emitter saturation voltage

$I_C = f(V_{CE\text{sat}}), h_{FE} = 10$

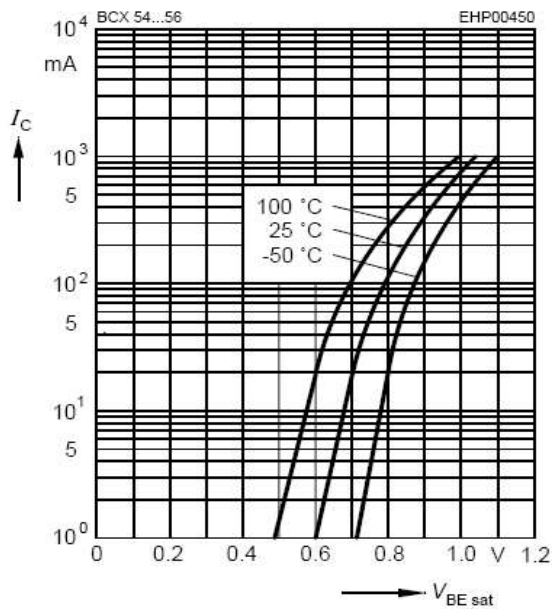


## NPN Silicon AF Transistors

## BCX54/BCX55/BCX56

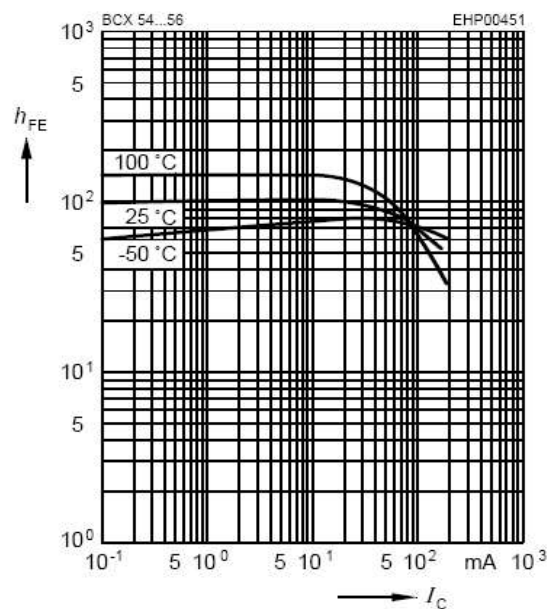
### Base-emitter saturation voltage

$$I_C = f(V_{BEsat}), h_{FE} = 10$$



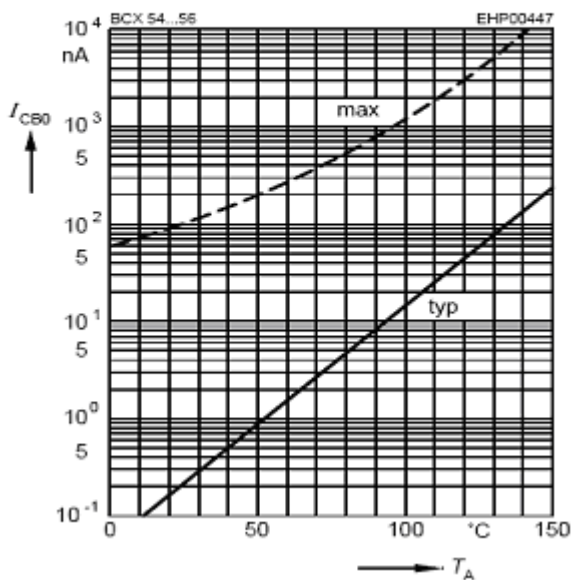
### DC current gain $h_{FE} = f(I_C)$

$$V_{CE} = 2V$$



### Collector cutoff current $I_{CBO} = f(T_A)$

$$V_{CB} = 30V$$



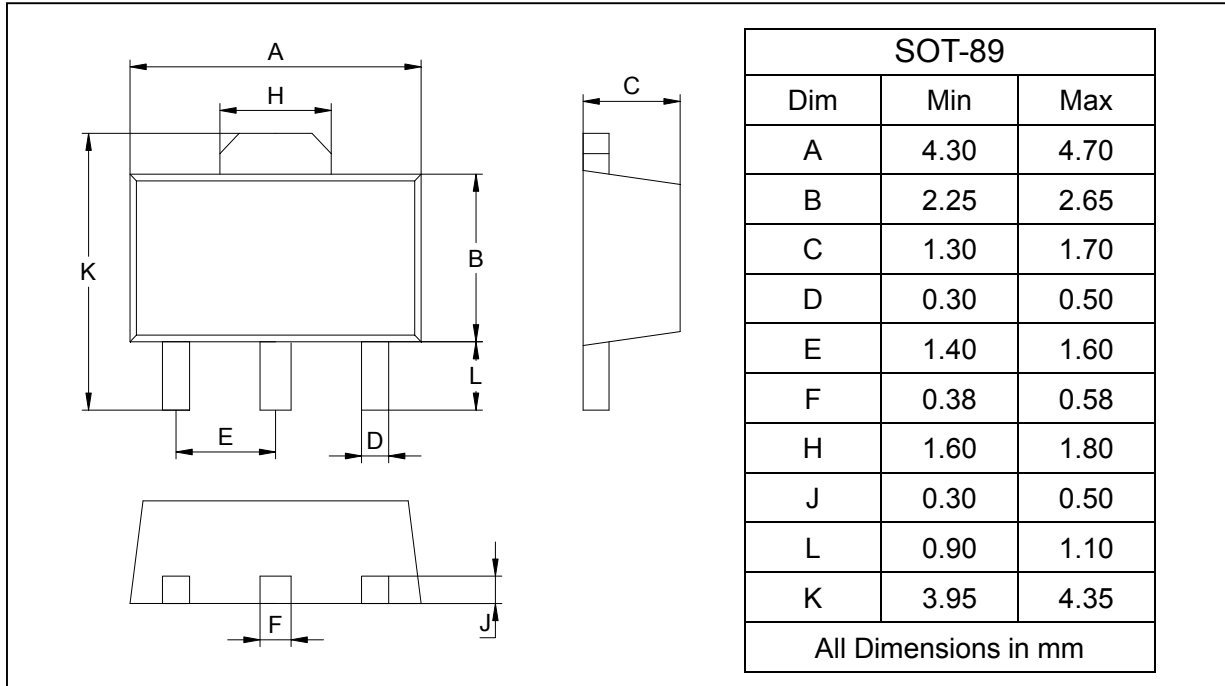
## NPN Silicon AF Transistors

## BCX54/BCX55/BCX56

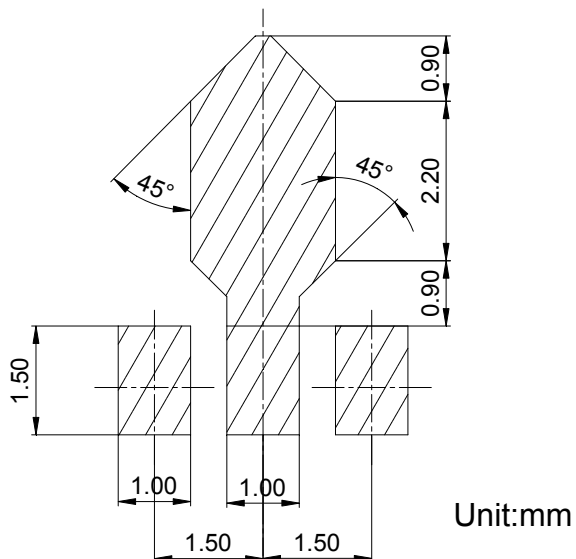
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
BCX54/BCX55/BCX56	SOT-89	1000/Tape&Reel