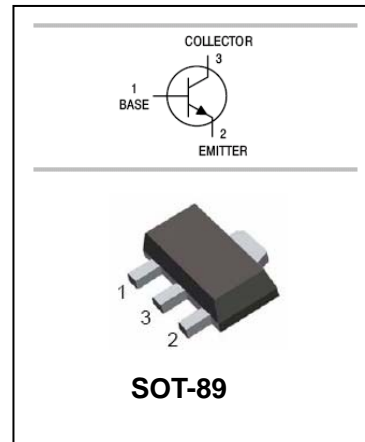


## NPN Silicon AF Transistors

### 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

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

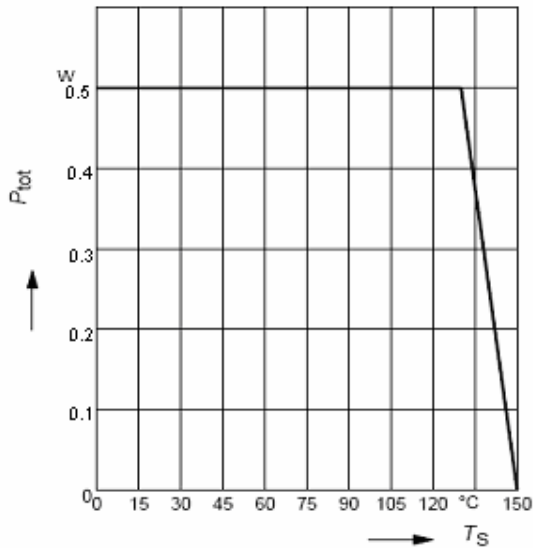
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	BCX54	45
		BCX55	60
		BCX56	100
$V_{CEO}$	Collector-Emitter Voltage	BCX54	45
		BCX55	60
		BCX56	80
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	DC Collector Current	1	A
$I_{CM}$	Peak Collector Current	1.5	A
$I_B$	Base current	100	mA
$I_{BM}$	Peak base current	200	mA
$P_{tot}$	Total power dissipation, $T_S=130^\circ\text{C}$	500	mW
$T_j, T_{stg}$	Junction and Storage Temperature	-65 to +150	°C

## 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

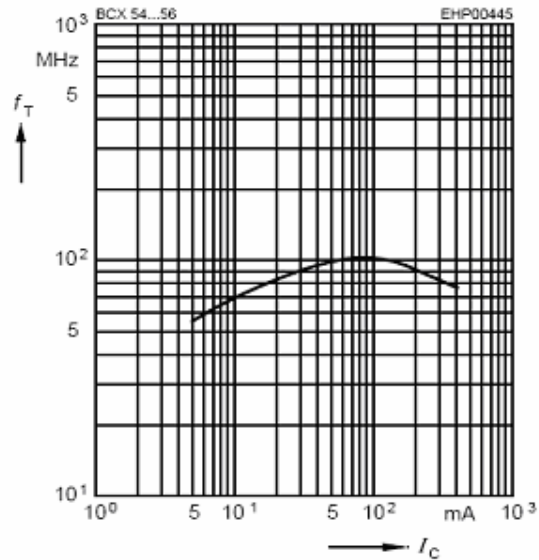
## TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

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



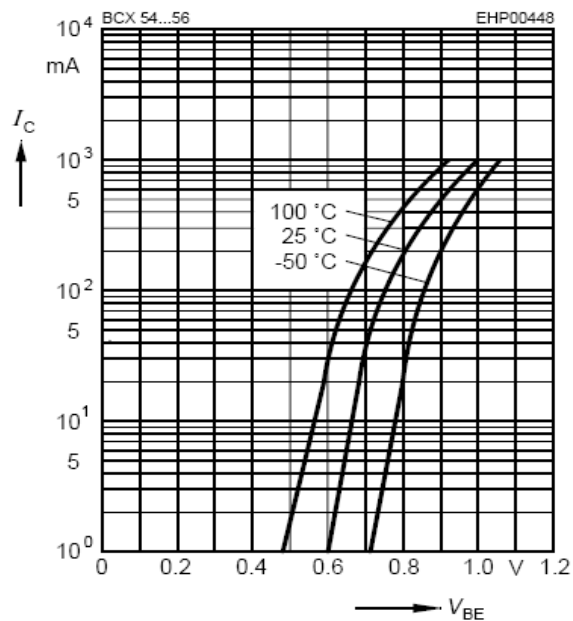
**Transition frequency  $f_T = f(I_C)$**

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



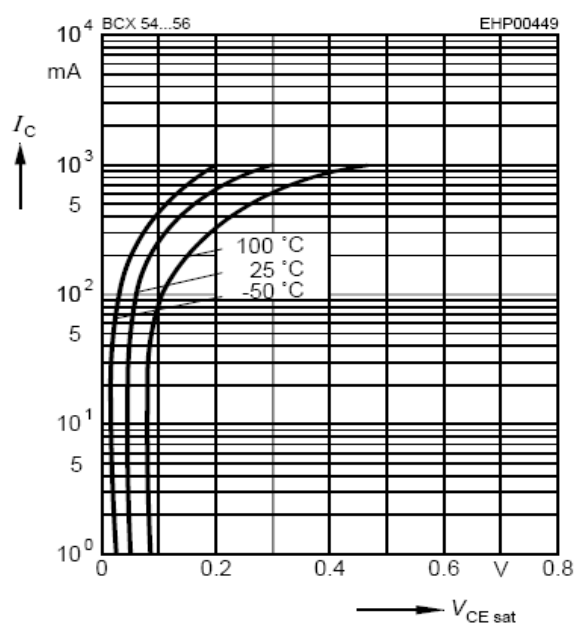
**Collector current  $I_C = f(V_{BE})$**

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



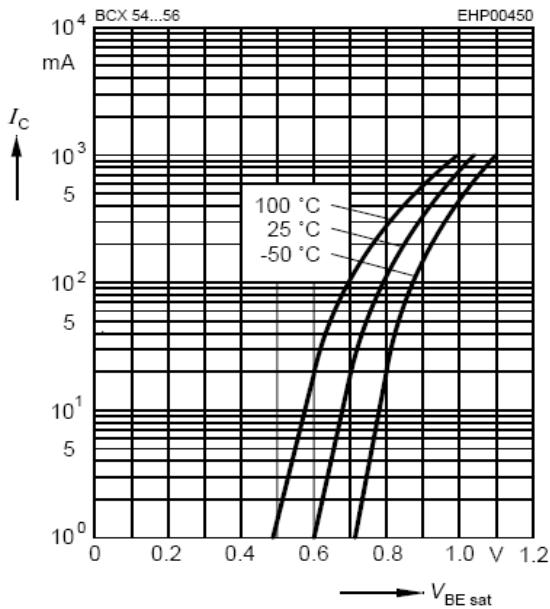
**Collector-emitter saturation voltage**

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



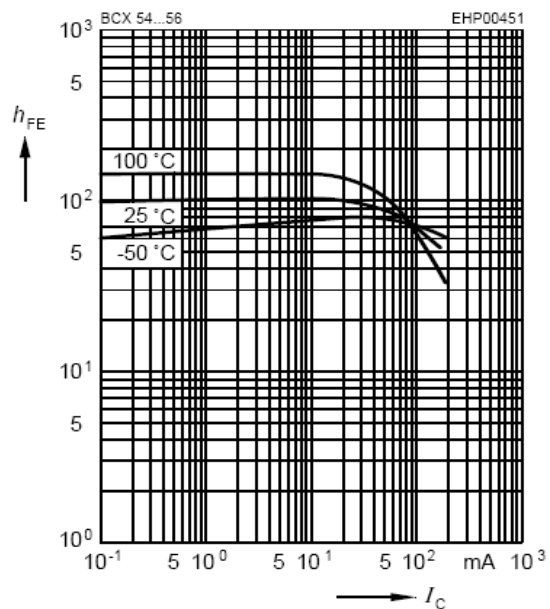
### Base-emitter saturation voltage

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



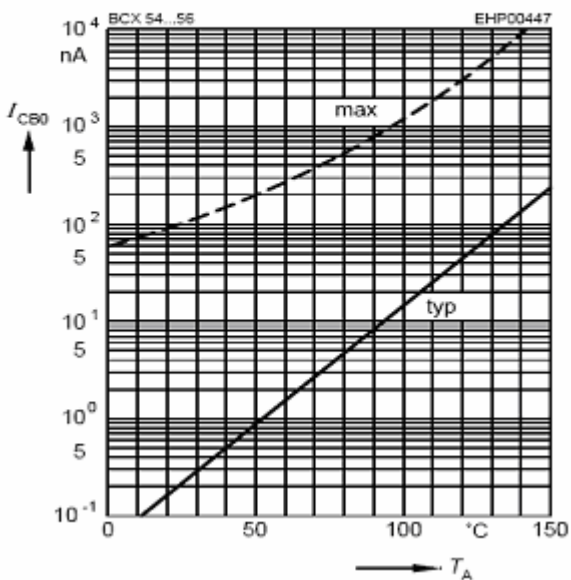
### DC current gain $h_{FE} = f(I_C)$

$$V_{CE} = 2V$$



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

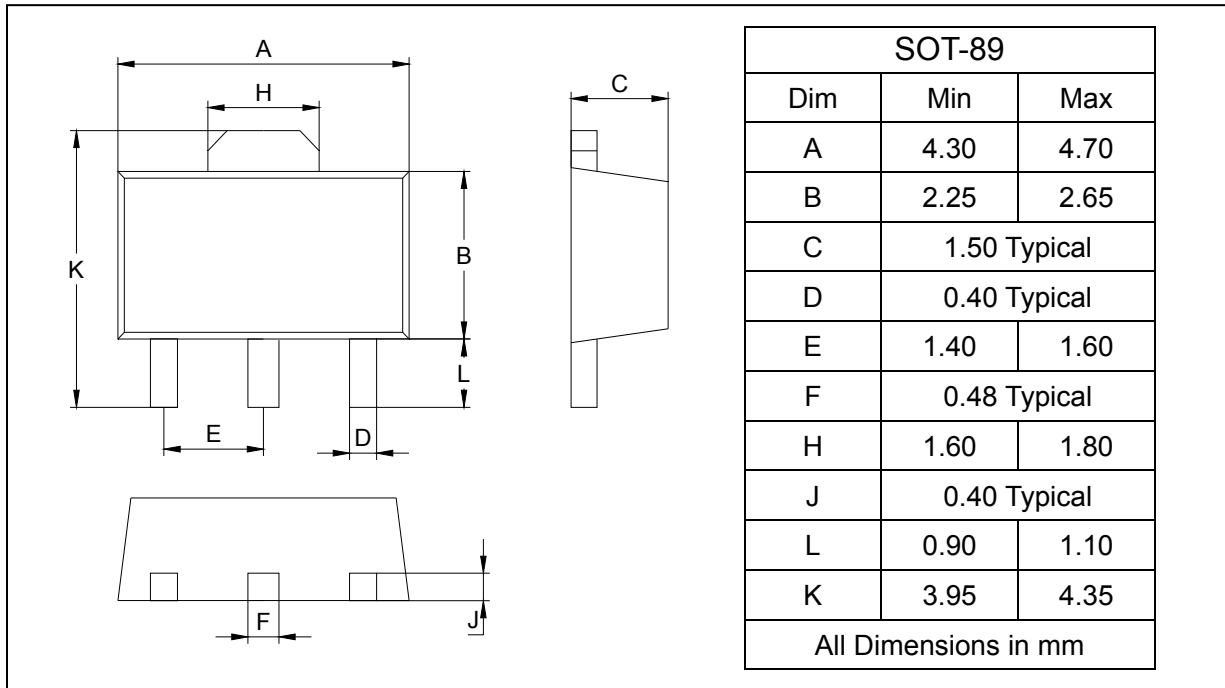
$$V_{CB} = 30V$$



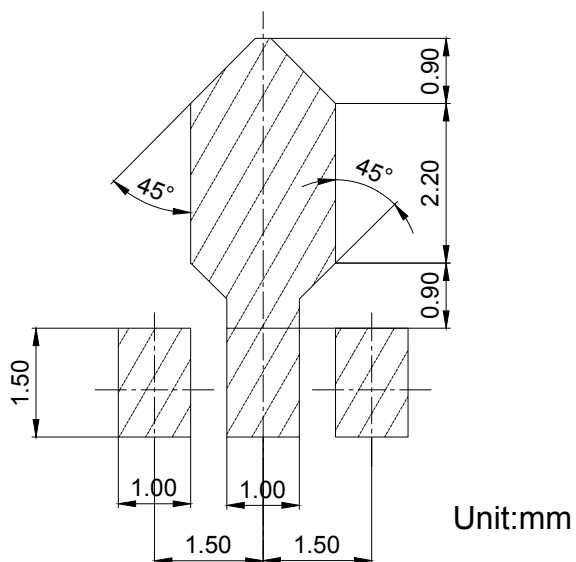
## PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



## SOLDERING FOOTPRINT



## PACKAGE INFORMATION

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