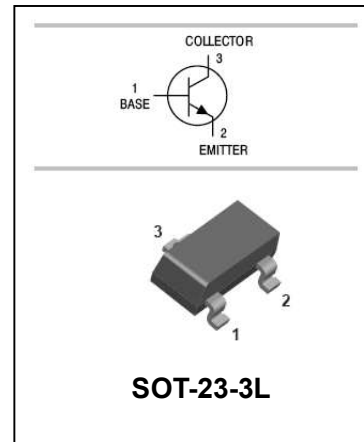


## NPN Silicon AF Transistors

## BCX56-3L

### FEATURES

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- Complementary types: BCX56(PNP)



### ORDERING INFORMATION

Type No.	Marking	Package Code
BCX56□-3L	BH	SOT-23-3L
BCX56-10□-3L	BK	SOT-23-3L
BCX56-16□-3L	BL	SOT-23-3L

□: none is for Lead Free package;

“G” is for Halogen Free package.

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

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Vo	80	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	DC Collector Current	1	A
$I_{CM}$	Peak Collector Current	1.5	A
$I_B$	Base crrent	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
$R_{\theta JA}$	Thermal resistance junction to ambient air	75	°C/W
$R_{\theta JC}$	Junction-case thermal resistance	35	°C/W

## NPN Silicon AF Transistors

## BCX56-3L

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

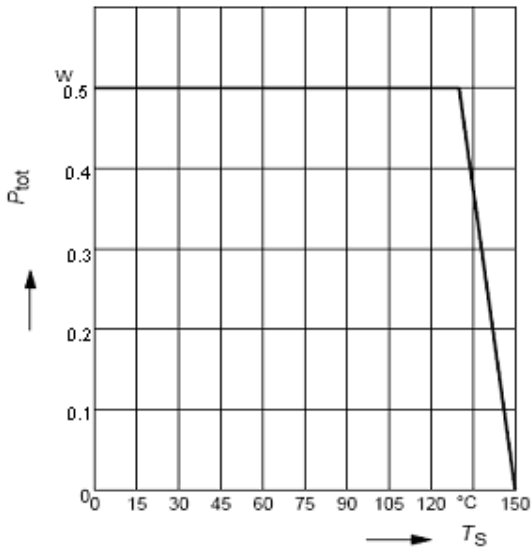
Parameter	Symbol	Test conditions	MIN	MAX	UNIT	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A$ $I_B=0$ BCX56-3L	100		V	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA$ $I_B=0$ BCX56-3L	80		V	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A$ $I_C=0$	5		V	
Collector 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			
		$V_{CE}=2V$ $I_C=150mA$	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**

**BCX56-3L**

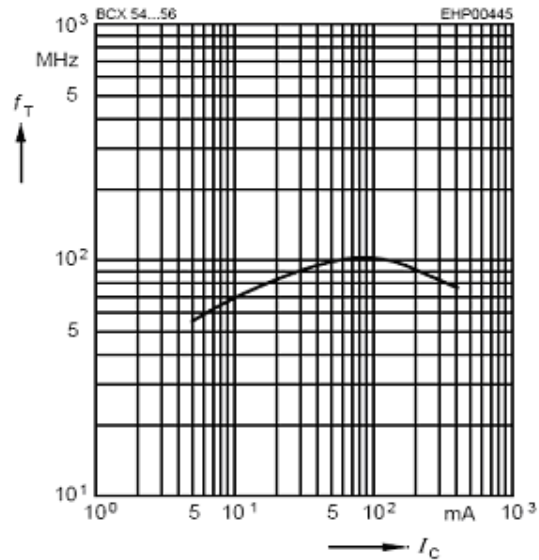
TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

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



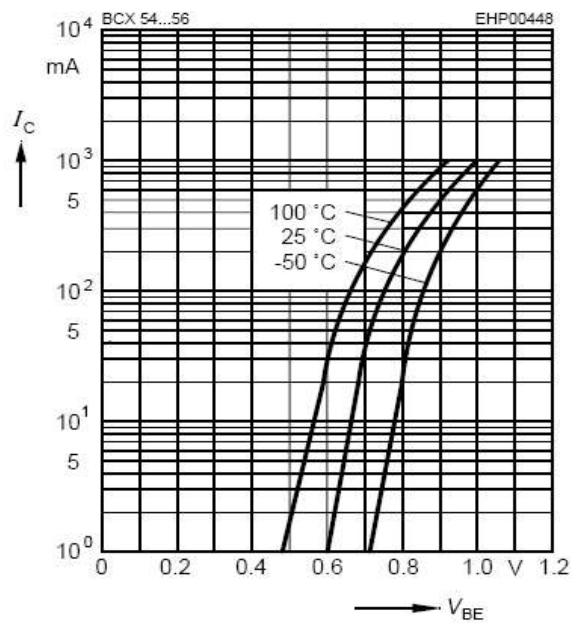
Transition frequency  $f_T = f(I_C)$

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



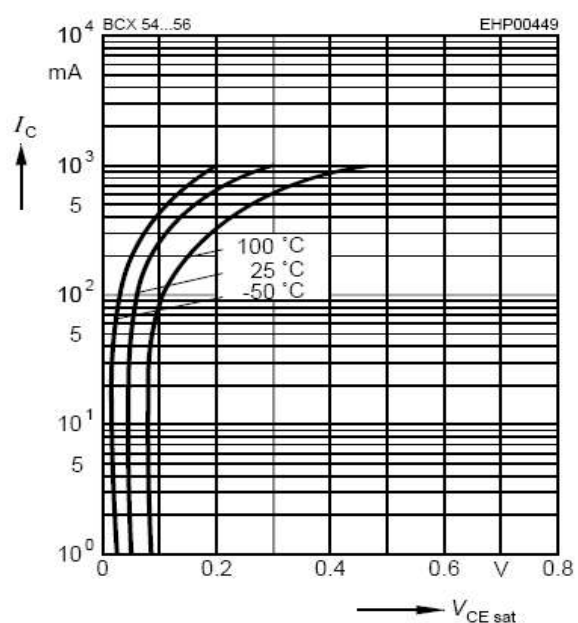
Collector current  $I_C = f(V_{BE})$

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



Collector-emitter saturation voltage

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

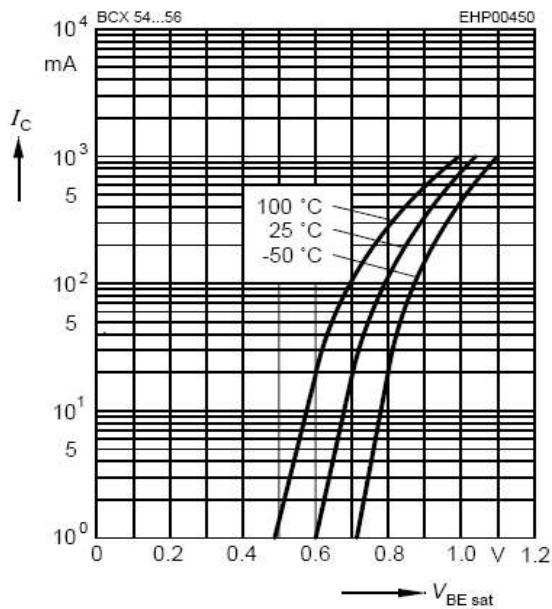


## NPN Silicon AF Transistors

## BCX56-3L

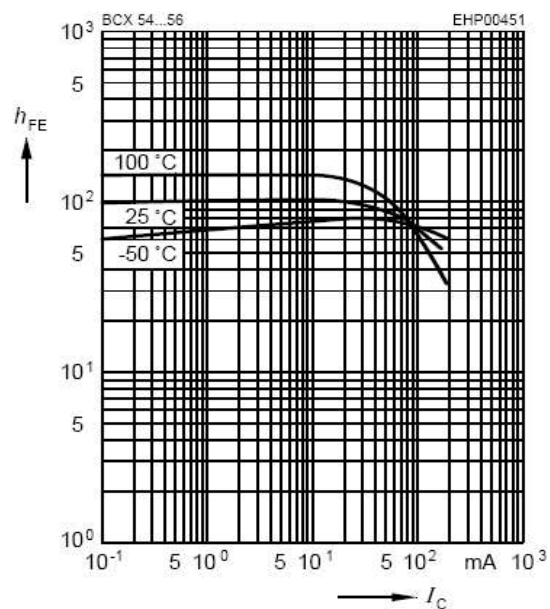
### Base-emitter saturation voltage

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



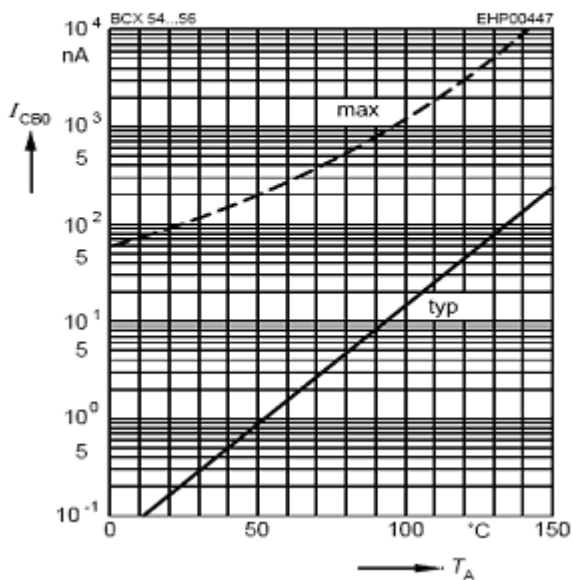
### DC current gain $h_{FE} = f(I_C)$

$$V_{CE} = 2V$$



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

$$V_{CB} = 30V$$



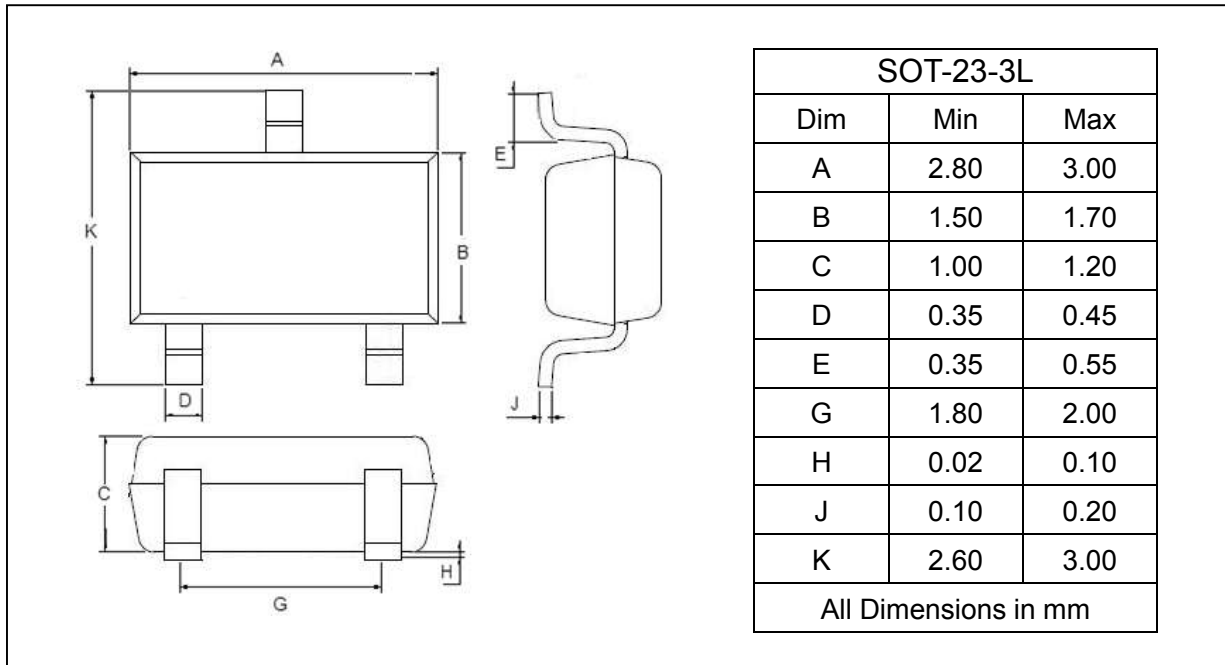
## NPN Silicon AF Transistors

## BCX56-3L

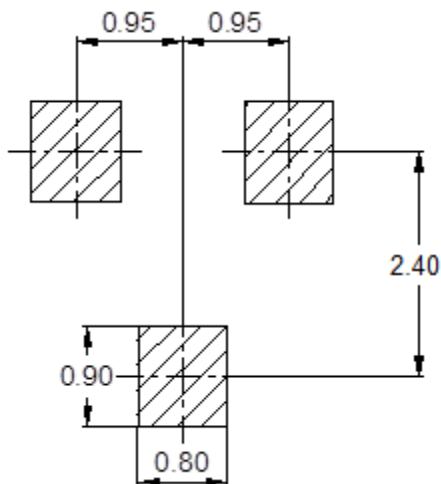
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23-3L



### SOLDERING FOOTPRINT



Unit:mm

### PACKAGE INFORMATION

Device	Package	Shipping
BCX56-3L	SOT-23-3L	3000/Tape&Reel