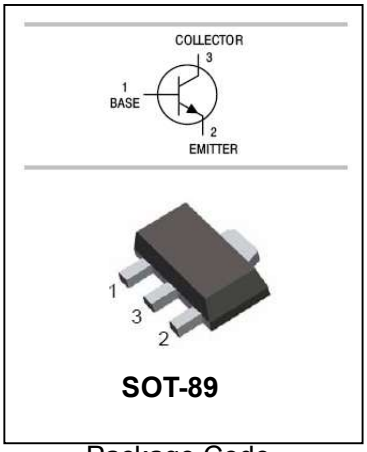
NPN Silicon AF Transistors BCX54/BCX55/BCX56

FEATURES

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

Lead-free

HF



SOT-89

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℃ unless otherwise specified

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	BCX54 BCX55 BCX56	45 60 100	V
V_{CEO}	Collector-Emitter Voltage	BCX54 BCX55 BCX56	45 60 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 current		100	mA
I_{BM}	Peak base current		200	mA
P_{tot}	Total power dissipation T_S=130℃		500	mW
T_j, T_{stg}	Junction and Storage Temperature		-65 to +150	℃
$R_{\theta jA}$	Thermal resistance junction to ambient air		75	°C/W
$R_{\theta jC}$	Junction-case thermal resistance		35	°C/W

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA 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=10μA 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℃		20	μA
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

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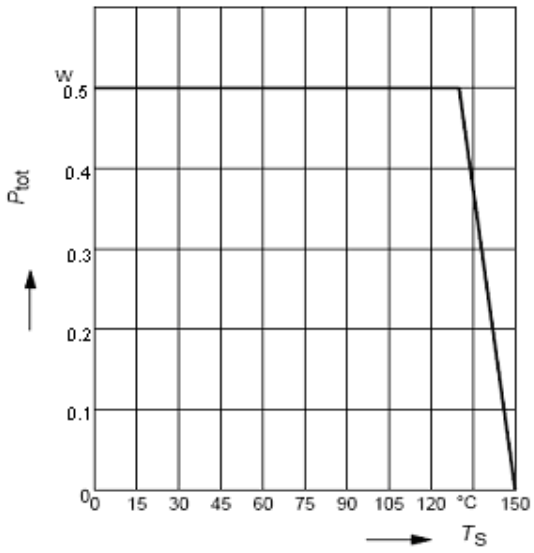
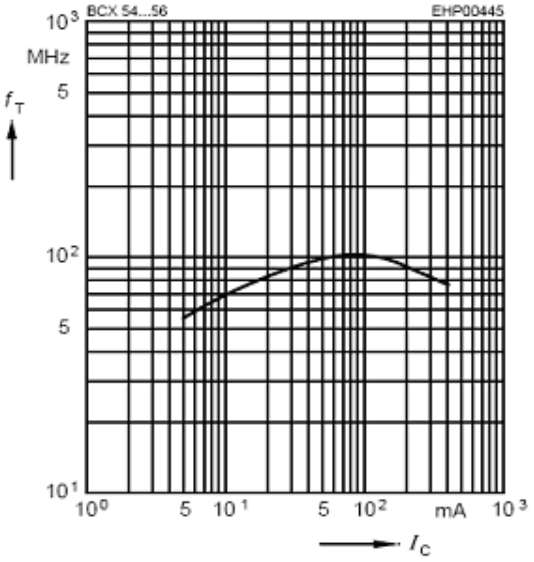
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

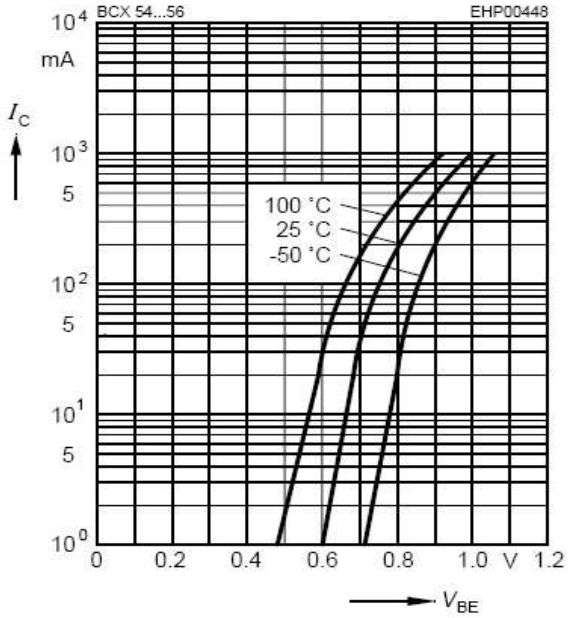
Total power dissipation $P_{tot} = f(T_S)$



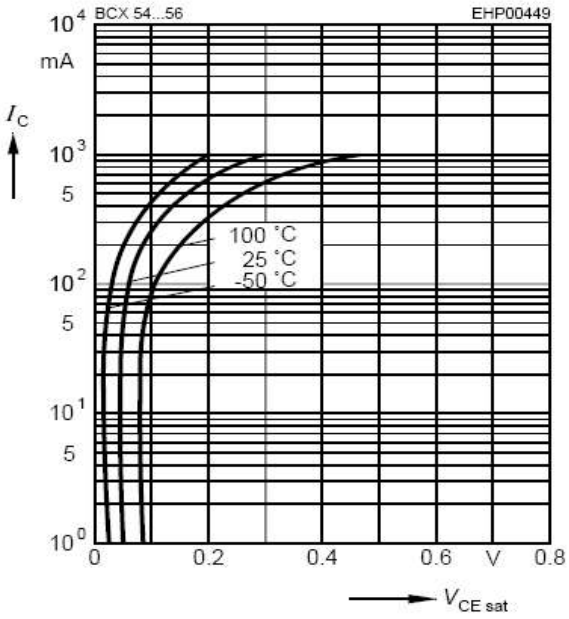
Transition frequency $f_T = f(I_C)$
V_{CE} = 10V



Collector current $I_C = f(V_{BE})$
V_{CE} = 2V



Collector-emitter saturation voltage
$I_C = f(V_{CEsat})$, h_{FE} = 10



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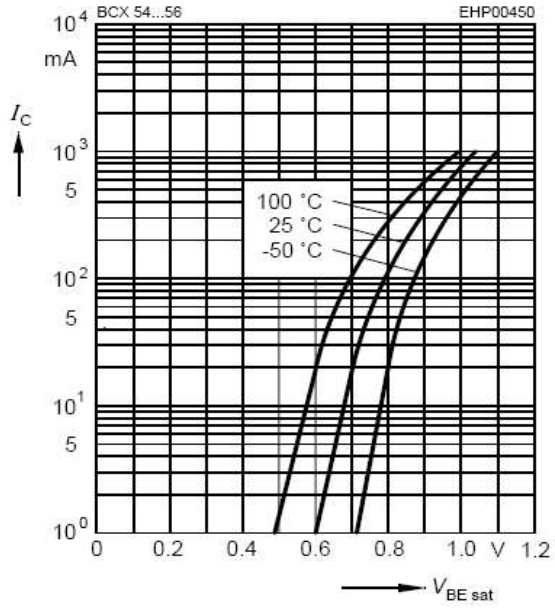
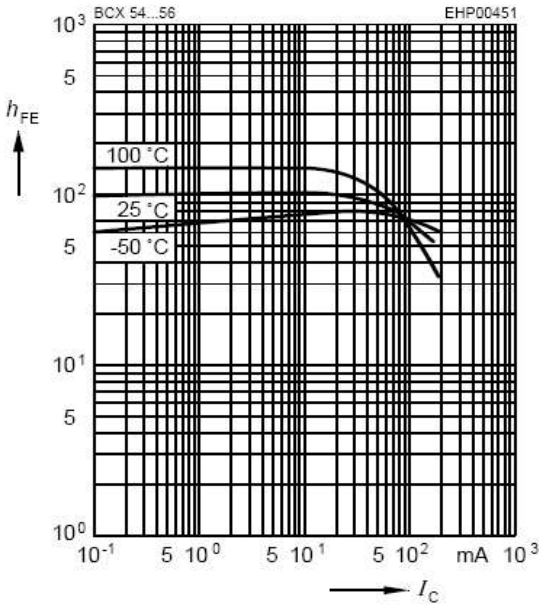
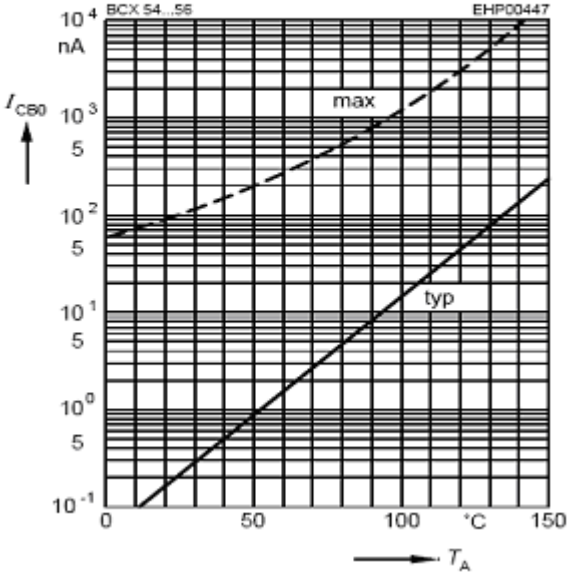
Base-emitter saturation voltage
$I_C = f(V_{BEsat})$, $h_{FE} = 10$



DC current gain $h_{FE} = f(I_C)$
$V_{CE} = 2V$



Collector cutoff current $I_{CBO} = f(T_A)$
$V_{CB} = 30V$



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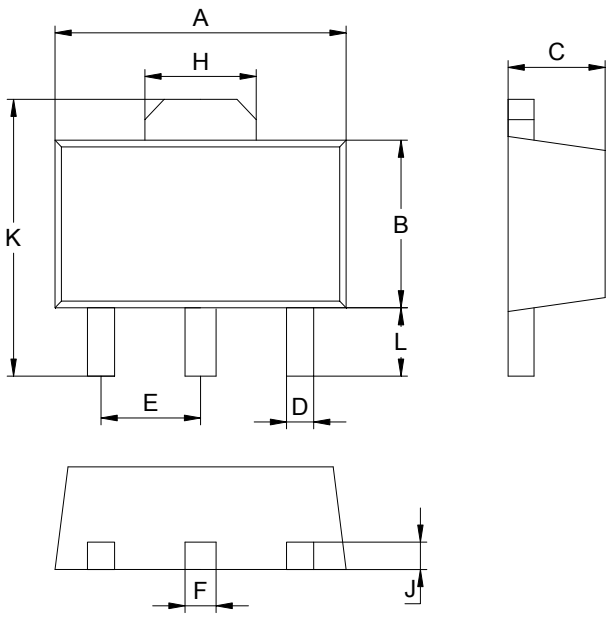
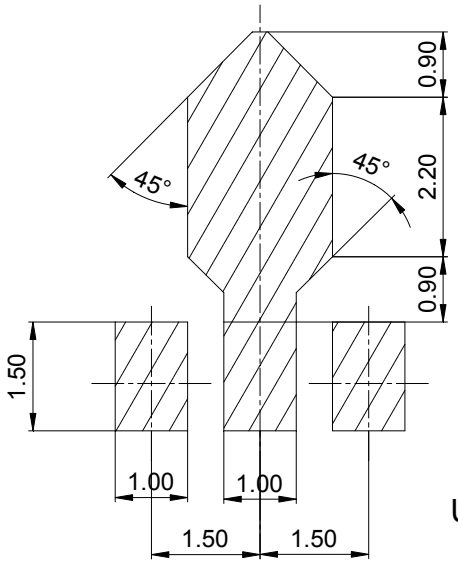
PACKAGE OUTLINE

Plastic surface mounted package SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.30	1.70
D	0.30	0.50
E	1.40	1.60
F	0.38	0.58
H	1.60	1.80
J	0.30	0.50
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

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

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