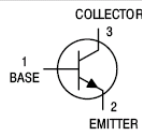
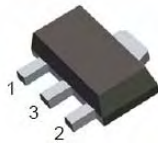
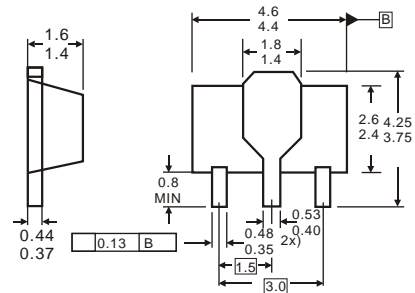


BCX54-BCX56

NPN Silicon AF Transistors



SOT-89



Dimensions in inches and (millimeters)

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, $T_S=130^\circ\text{C}$	1	W
T_j, T_{stg}	Junction and Storage Temperature	-65 to+150	°C

BCX54-BCX56

NPN Silicon AF Transistors



ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

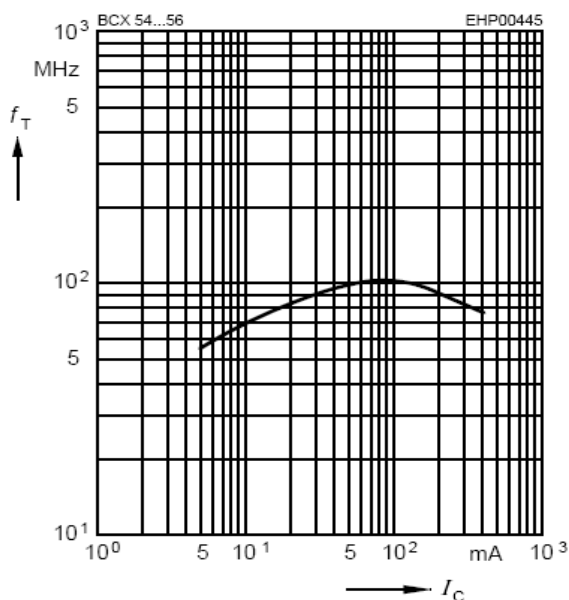
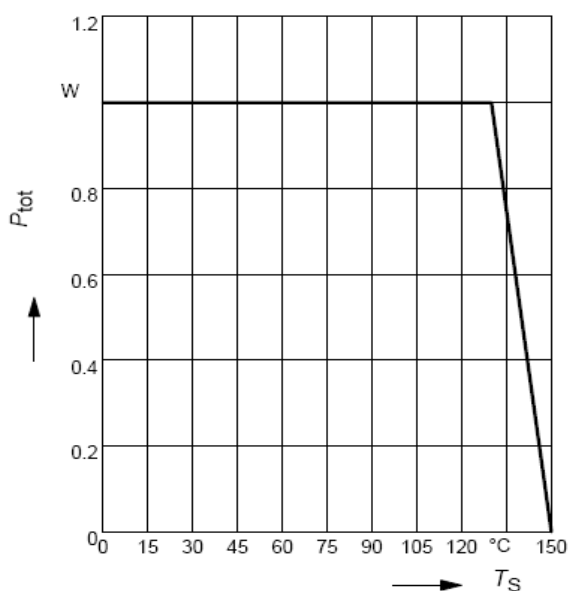
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A$ $I_B=0$ BCX54 BCX55 BCX56	45 60 100		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA$ $I_B=0$ BCX54 BCX55 BCX56	45 60 80		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A$ $I_C=0$	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	μA
DC current gain	h_{FE}	$V_{CE}=2V$ $I_C=5mA$	25		
		$V_{CE}=2V$ $I_C=150mA$	40	250	
		$V_{CE}=2V$ $I_C=500mA$	25		
		$V_{CE}=2V$ $I_C=150mA$	-10 -16	63 100	160 250
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 @ Ta=25°C unless otherwise specified

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

Transition frequency $f_T = f(I_C)$

$V_{CE} = 10V$



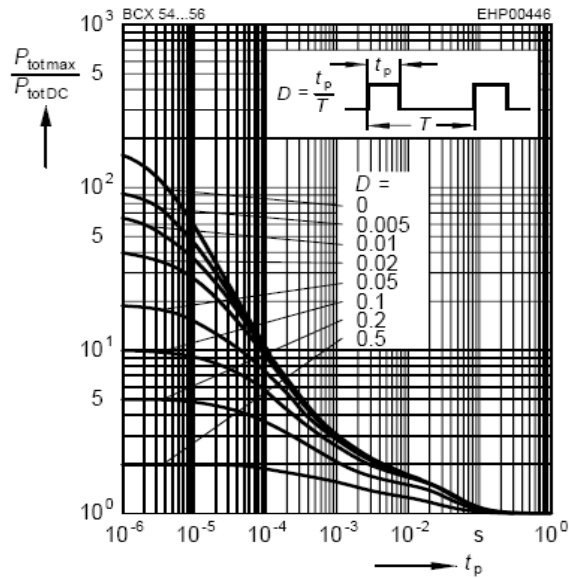
BCX54-BCX56

NPN Silicon AF Transistors



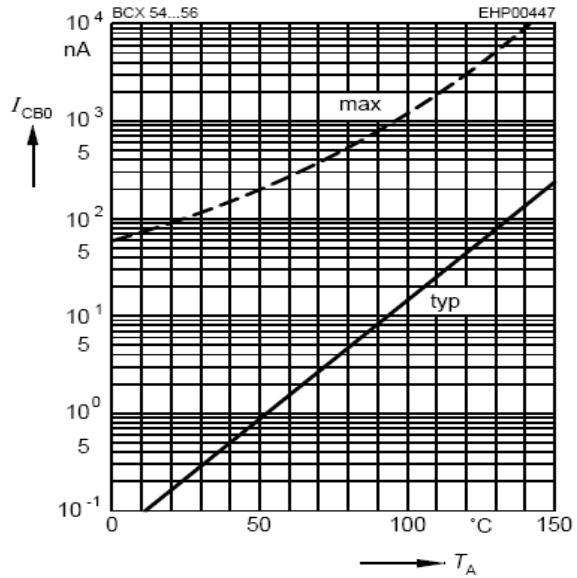
Permissible pulse load

$$P_{\text{totmax}} / P_{\text{totDC}} = f(t_p)$$



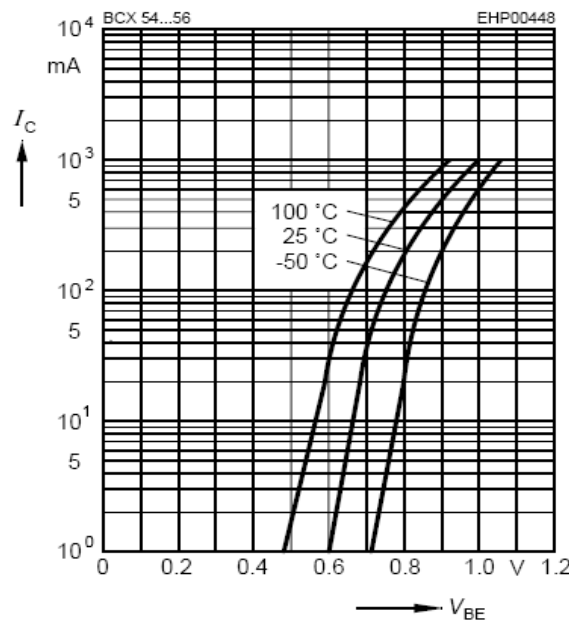
Collector cutoff current $I_{\text{CBO}} = f(T_A)$

$$V_{\text{CB}} = 30\text{V}$$



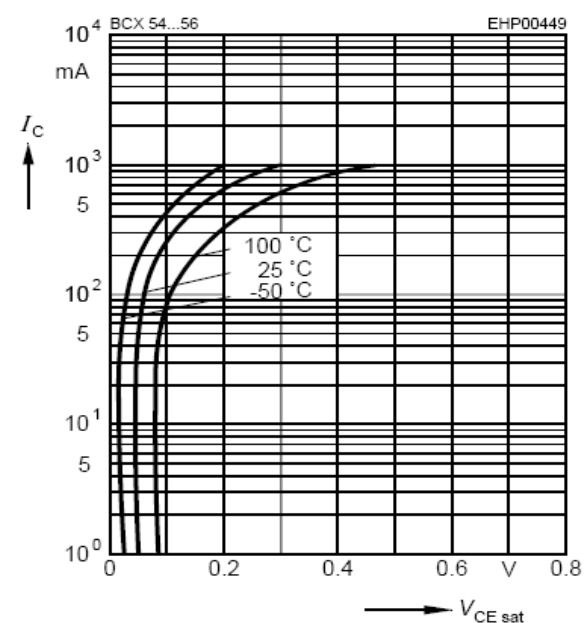
Collector current $I_C = f(V_{\text{BE}})$

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



Collector-emitter saturation voltage

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



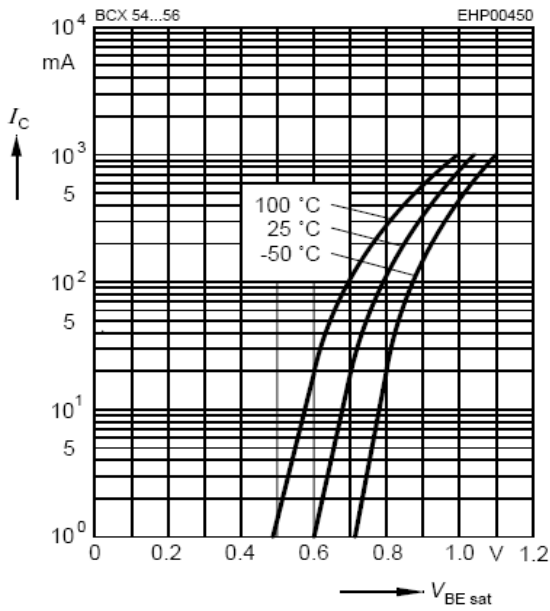
BCX54-BCX56

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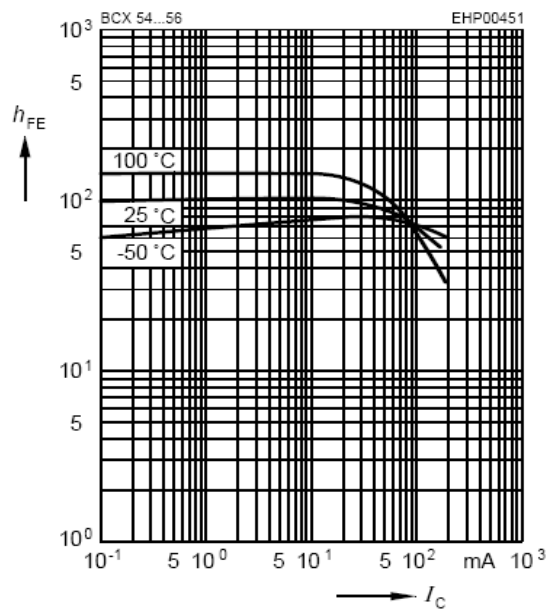
Base-emitter saturation voltage

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



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

$$V_{CE} = 2V$$



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