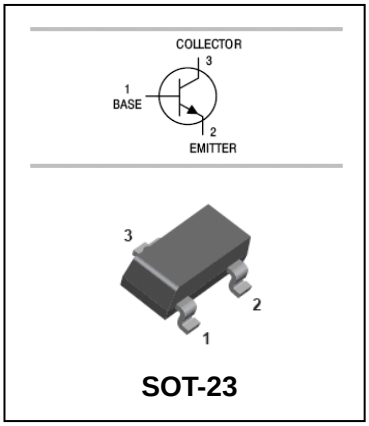
Silicon Epitaxial Planar Transistor **BCX70**

FEATURES

Lead-free

- For AF input stages and driver applications.
- High current gain.
- Low collector-emitter saturation voltage.
- Low noise between 30Hz and 15kHz.
- Complementary types:BCX71.



SOT-23

APPLICATIONS

- General purpose transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
BCX70G	AG	SOT-23
BCX70H	AH	SOT-23
BCX70J	AJ	SOT-23
BCX70K	AK	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Units**
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	DC collector current	100	mA
I_{CM}	Peak collector current	200	mA
I_{BM}	Peak base current	200	mA
P_C	Collector Dissipation	350	mW
T_j, T_{stg}	Junction and Storage Temperature	-65 to +150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10uA,I_E=0	45			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA,I_B=0	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=1.0μA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CE}=45V,V_{BE}=0			20	nA
Emitter cut-off current	I_{EBO}	V_{EB}=4V,I_C=0			20	nA
DC current gain	h_{FE}	V_{CE}=5V,I_C=10μA G	20	140		
		H	20	200		
		J	40	300		
		K	100	460		
		V_{CE}=5V,I_C=2mA G	120		220	
		H	180		310	
		J	250		460	
		K	380		630	
		V_{CE}=1V,I_C=50mA G	50			
		H	70			
		J	90			
		K	100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA, I_B=0.25mA		0.12	0.25	V
		I_C=50mA, I_B=1.25mA		0.2	0.55	
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=10mA, I_B=0.25mA		0.7	0.85	V
		I_C=50mA, I_B=1.25mA		0.83	1.05	
Base-emitter on voltage	$V_{BE(on)}$	I_C=2.0mA, V_{CE}=5V	0.55	0.65	0.75	V
Transition frequency	f_T	V_{CE}=5V, I_C=20mA f=100MHz		250		MHz
Collector-base capacitance	C_{cb}	V_{CB}=10V,I_E=0,f=1MHz		3		pF
Emitter-base capacitance	C_{eb}	V_{EB}=0.5V,I_E=0,f=1MHz		8		
Noise figure	NF	V_{CE}=5V, I_C=100uA f=1kHz,R_S=1kΩ		2		dB

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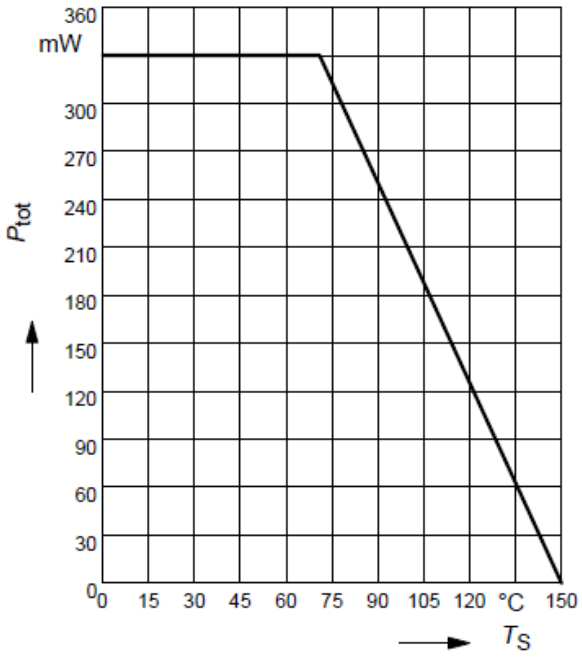
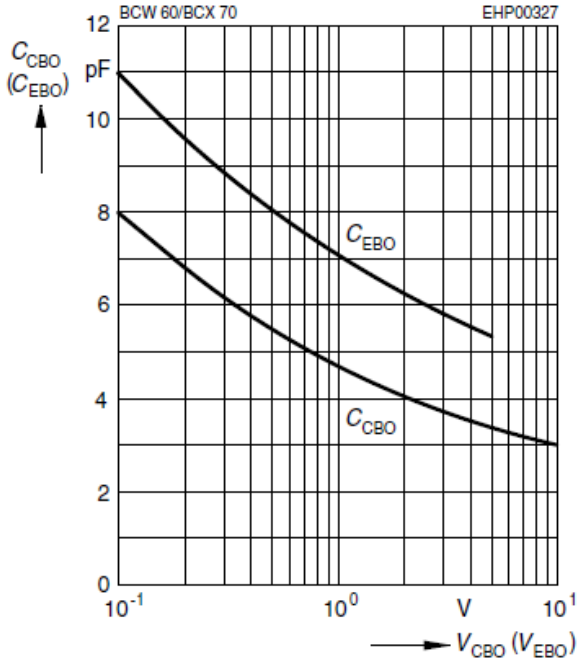
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

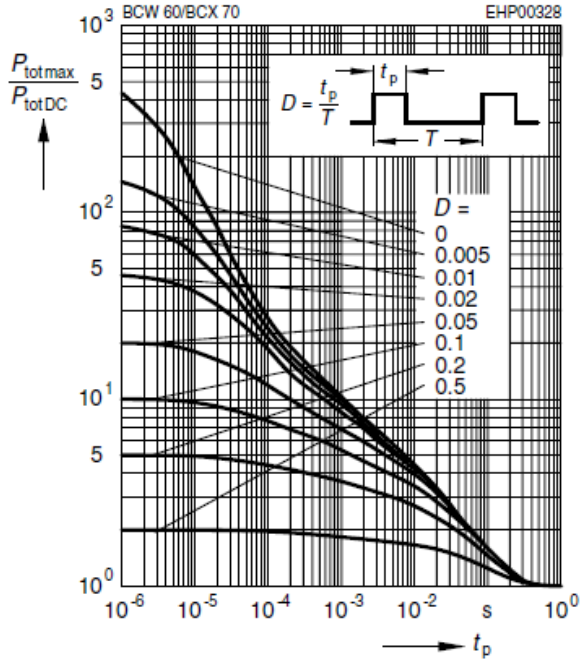
Total power dissipation $P_{tot} = f(T_S)$



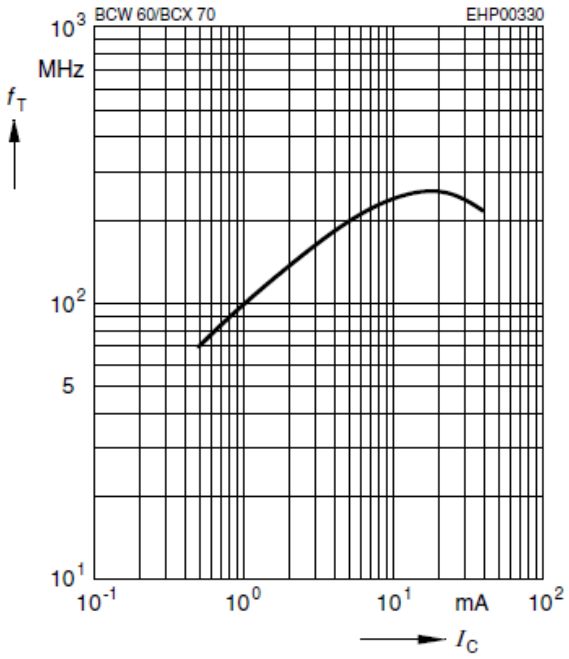
Collector-base capacitance $C_{CB} = f(V_{CBO})$
Emitter-base capacitance $C_{EB} = f(V_{EBO})$



Permissible pulse load
$P_{totmax} / P_{totDC} = f(t_p)$



Transition frequency $f_T = f(I_C)$
V_{CE} = 5V



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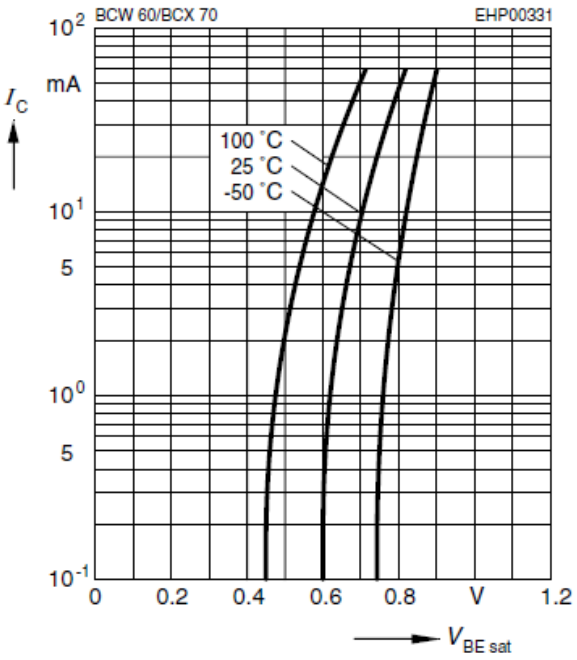
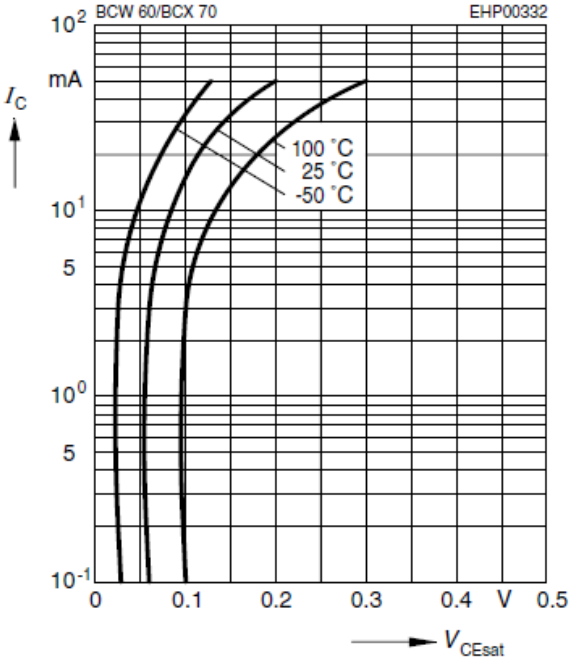
Base-emitter saturation voltage

$I_C = f(V_{BEsat})$, $h_{FE} = 40$



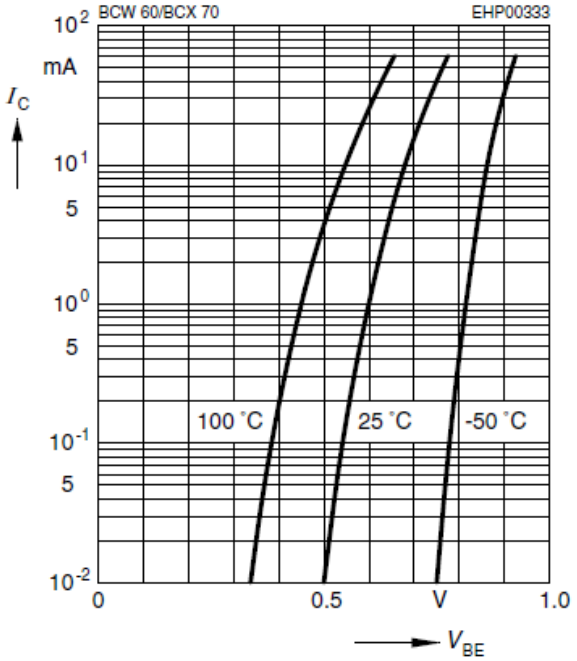
Collector-emitter saturation voltage

$I_C = f(V_{CEsat})$, $h_{FE} = 40$



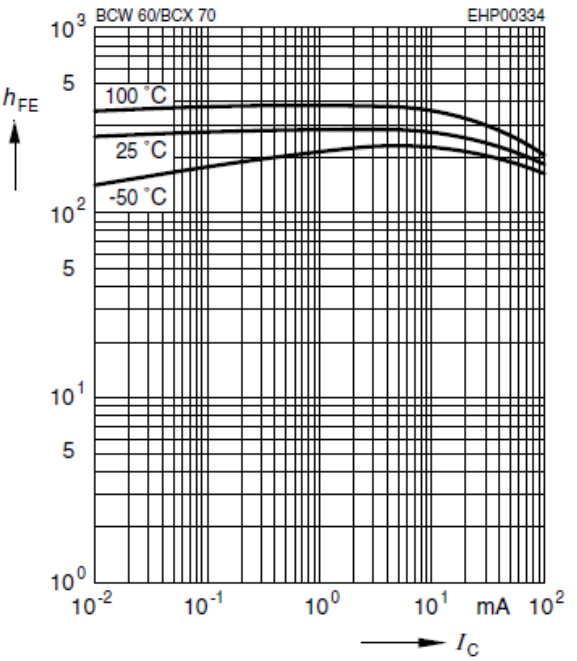
Collector current $I_C = f(V_{BE})$

$V_{CE} = 5V$



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

$V_{CE} = 5V$



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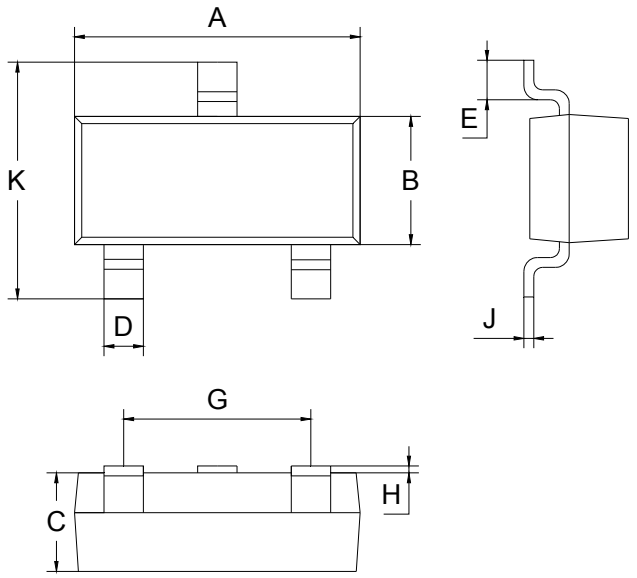
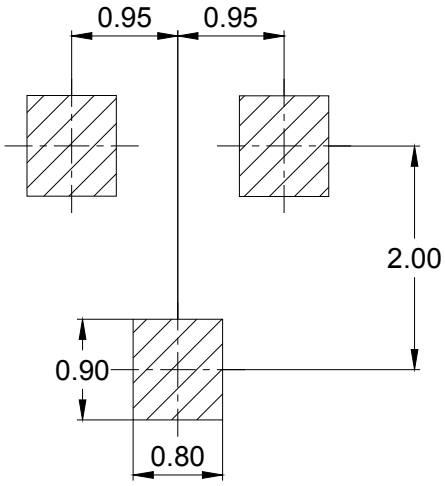
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
BCX70	SOT-23	3000/Tape&Reel