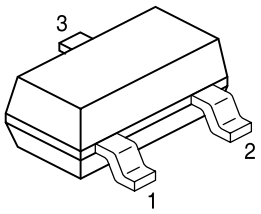
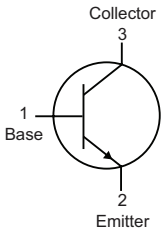
Silicon Epitaxial Planar Transistor





Features:

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

Applications:

- General purpose transistor

Pin Configuration:

1. Base
2. Emitter
3. Collector

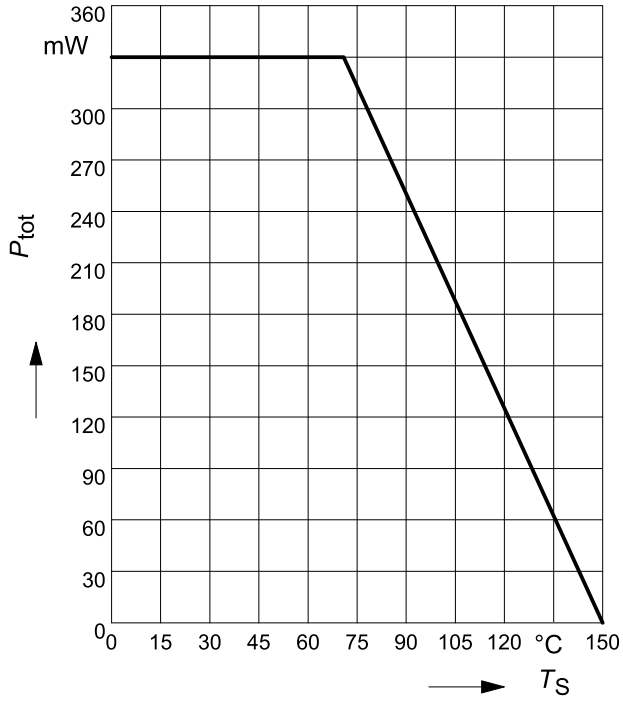
Maximum Ratings

Parameter	Symbol	Value	Unit
Collector - Base Voltage	V_{CBO}	45	V
Collector - Emitter Voltage	V_{CEO}	45	
Emitter - Base Voltage	V_{ebo}	5	
DC Collector Current	I_C	100	A
Collector Current - Peak	I_{CM}	200	mA
Peak Base Current	I_{BM}	200	
Collector Dissipation	P_{TOT}	350	W
Junction and Storage Temperature	T_j, T_{stg}	-65 to +150	°C

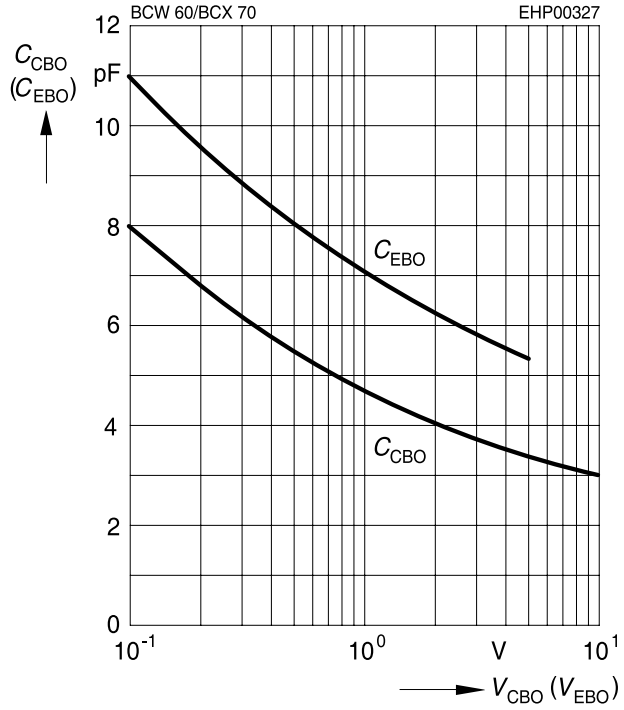
Electrical Characteristics (T_a = 25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=-10μA, I_E=0	45			V
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=-10mA, I_B=0	45			
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=-1μA, I_C=0	5			
Collector Cut-Off Current	I_{CBO}	V_{CE}=-45V, V_{BE}=0			20	nA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=10μA H J V_{CE}=5V, I_C=2mA H J V_{CE}=5V, I_C=50mA H J	20 40 180 250 70 90	140 200 300 460	220 310 460 630	
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=10mA, I_B=0.25mA I_C=50mA, I_B=1.25mA		0.12 0.2	0.35 0.55	V
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=10mA, I_B=0.25mA I_C=50mA, I_B=1.25mA		0.7 0.83	0.85 1.05	
Base Emitter Voltage	V_{BE}	I_C=2mA ,V_{CE}=5V	0.55	0.65	0.72	
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

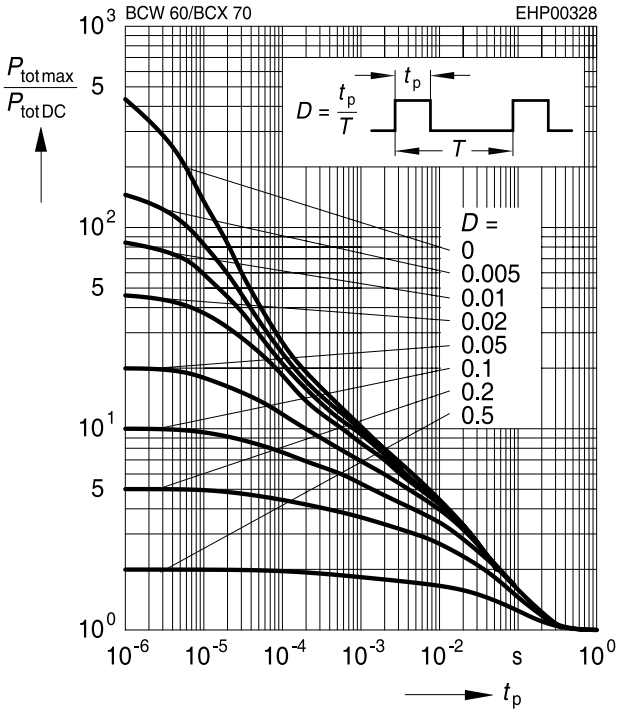
Total power dissipation $P_{tot} = f(T_S)$



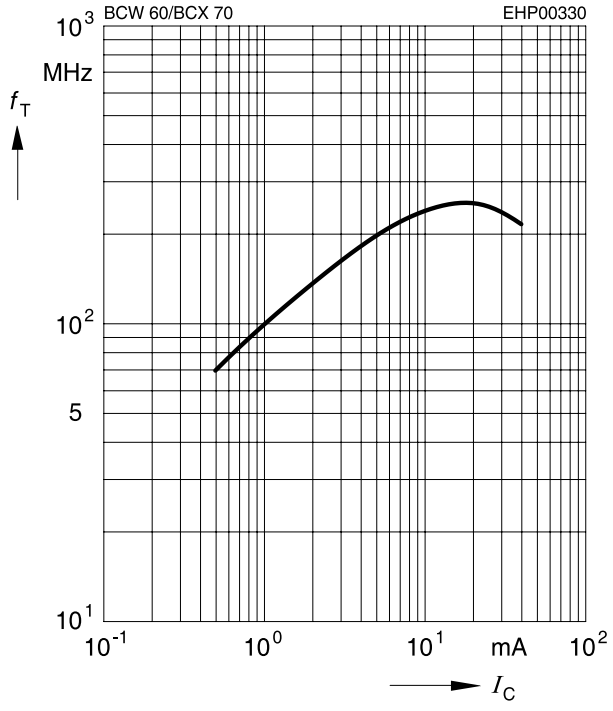
Collector-base capacitance $C_{CB} = f(V_{CBO})$
Emitter-base capacitance $C_{EB} = f(V_{EBO})$



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

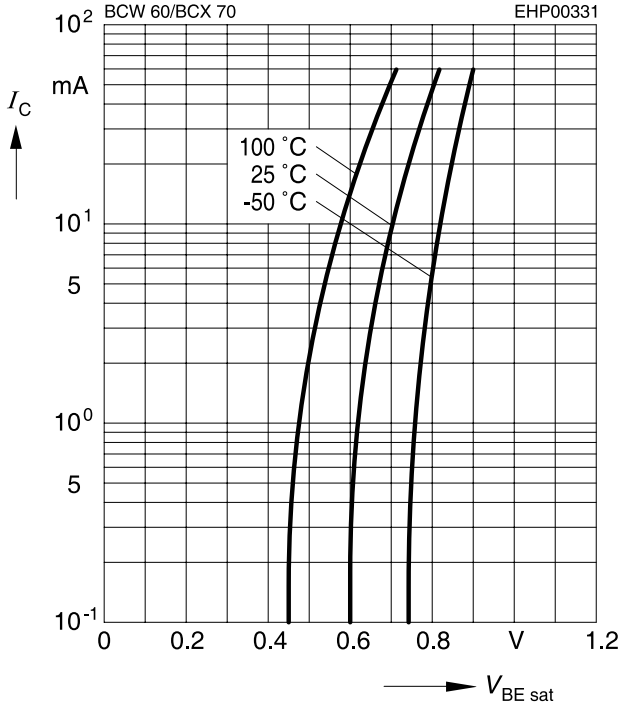


Transition frequency $f_T = f(I_C)$
V_{CE} = 5V



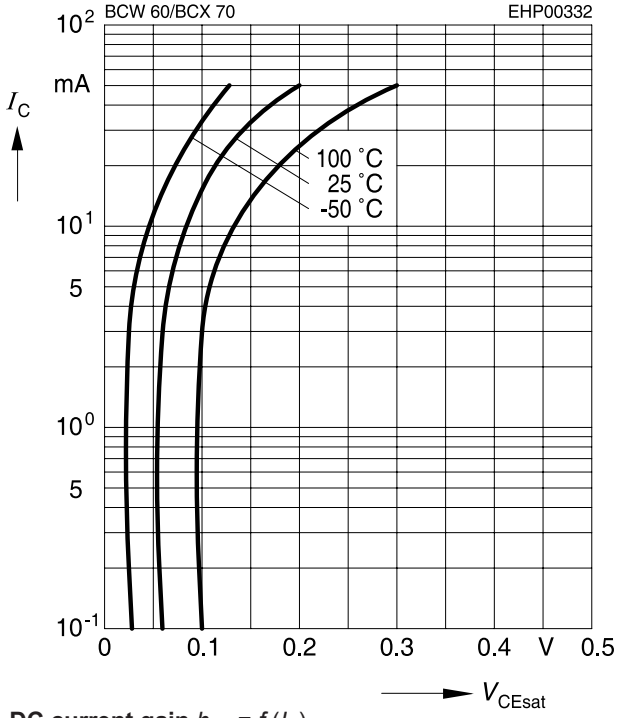
Base-emitter saturation voltage

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



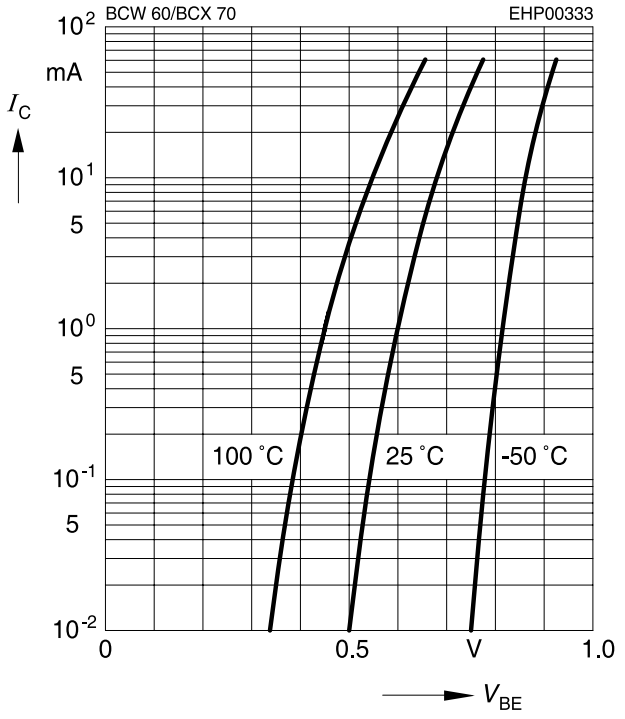
Collector-emitter saturation voltage

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



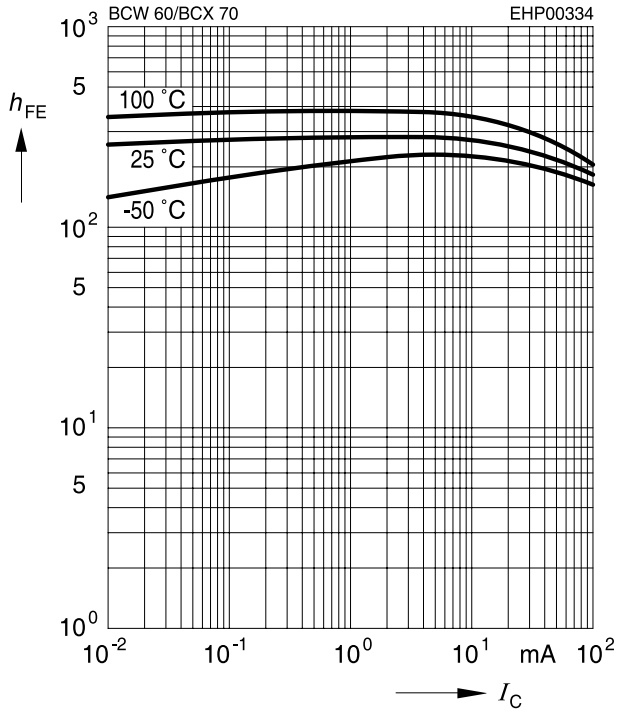
Collector current $I_C = f(V_{BE})$

$V_{CE} = 5V$



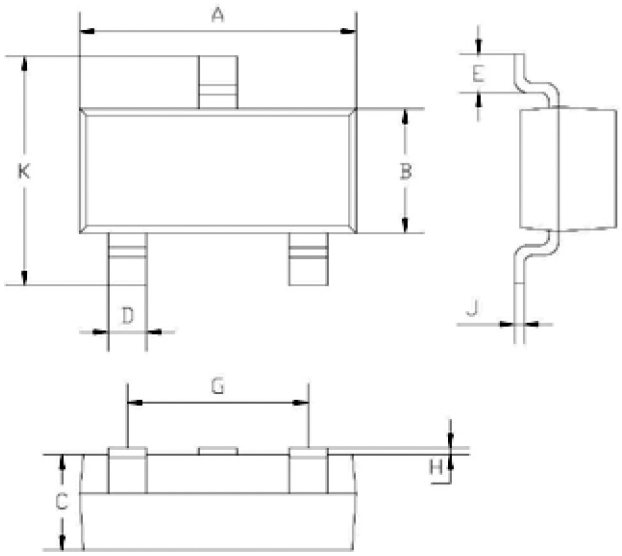
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 5V$



Package Outline

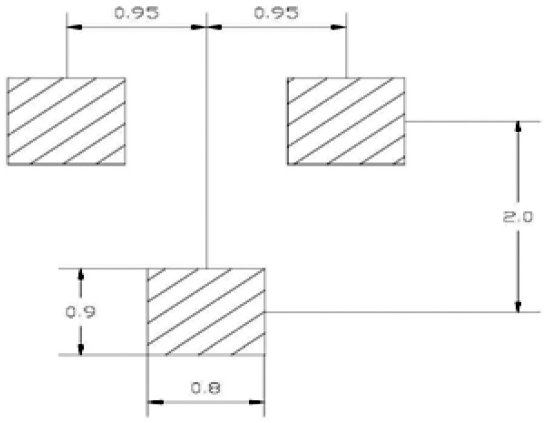
Plastic surface mounted package



Dimensions	Min.	Max.
A	2.85	2.95
B	1.25	1.35
C	1 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1 Typical	
K	2.35	2.45

Dimensions : Millimetres

Soldering Footprint



Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, NPN, 0.1A, 45V, SOT-23	BCX70H
Transistor, NPN, 0.1A, 45V, SOT-23	BCX70J