

## 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

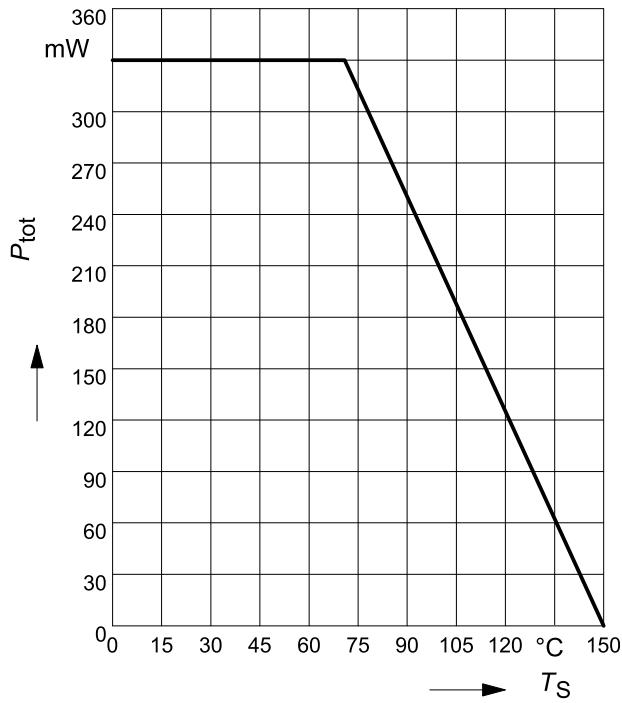
Parameter	Symbol	Value	Unit
Collector - Base Voltage	$V_{CBO}$	45	V
Collector - Emitter Voltage	$V_{CEO}$	45	
Emitter - Base Voltage	$V_{ebo}$	5	
DC Collector Current	$I_C$	100	mA
Collector Current - Peak	$I_{CM}$	200	mA
Peak Base Current	$I_{BM}$	200	
Collector Dissipation	$P_{TOT}$	350	mW
Junction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

## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector - Base Breakdown Voltage	$V_{(\text{BR})\text{CBO}}$	$I_C=-10\mu\text{A}, I_E=0$	45			V
Collector - Emitter Breakdown Voltage	$V_{(\text{BR})\text{CEO}}$	$I_C=-10\text{mA}, I_B=0$	45			
Emitter - Base Breakdown Voltage	$V_{(\text{BR})\text{EBO}}$	$I_E=-1\mu\text{A}, I_C=0$	5			
Collector Cut-Off Current	$I_{\text{CBO}}$	$V_{\text{CE}}=-45\text{V}, V_{\text{BE}}=0$			20	nA
DC Current Gain	$h_{\text{FE}}$	$V_{\text{CE}}=5\text{V}, I_C=10\mu\text{A}$ $V_{\text{CE}}=5\text{V}, I_C=2\text{mA}$ $V_{\text{CE}}=5\text{V}, I_C=50\text{mA}$	H J H J H J	20 40 180 250 70 90	140 200 300 460	220 310 460 630
Collector - Emitter Saturation Voltage	$V_{\text{CE}(\text{sat})}$	$I_C=10\text{mA}, I_B=0.25\text{mA}$ $I_C=50\text{mA}, I_B=1.25\text{mA}$			0.12 0.2	0.35 0.55
Base - Emitter Saturation Voltage	$V_{\text{BE}(\text{sat})}$	$I_C=10\text{mA}, I_B=0.25\text{mA}$ $I_C=50\text{mA}, I_B=1.25\text{mA}$			0.7 0.83	0.85 1.05
Base Emitter Voltage	$V_{\text{BE}}$	$I_C=2\text{mA}, V_{\text{CE}}=5\text{V}$	0.55	0.65	0.72	
Transition Frequency	$f_T$	$V_{\text{CE}}=5\text{V}, I_C=20\text{mA}$ , $f=100\text{MHz}$		250		MHz
Collector-base capacitance	$C_{\text{cb}}$	$V_{\text{CB}}=10\text{V}, I_E=0, f=1\text{MHz}$		3		pF
Emitter-base capacitance	$C_{\text{Eb}}$	$V_{\text{EB}}=0.5\text{V}, I_E=0, f=1\text{MHz}$		8		
Noise figure	NF	$V_{\text{CE}}=5\text{V}, I_C=100\mu\text{A}$ $f=1\text{kHz}, R_S=1\text{k}\Omega$		2		dB

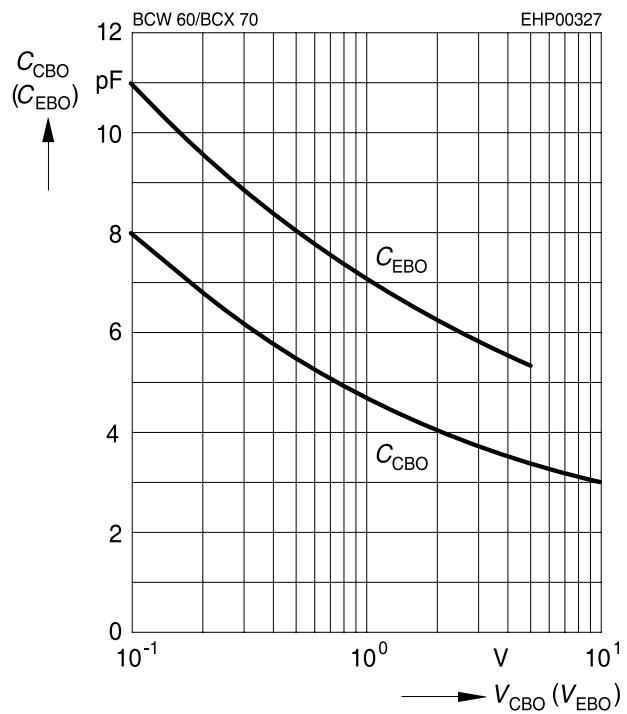
# Silicon Epitaxial Planar Transistor **multicomp**

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



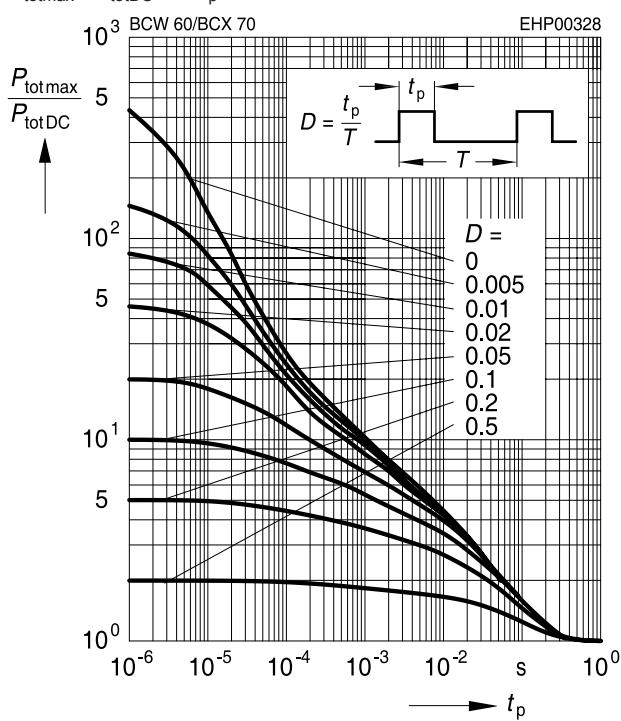
Collector-base capacitance  $C_{\text{CB}} = f(V_{\text{CBO}})$

Emitter-base capacitance  $C_{\text{EB}} = f(V_{\text{EBO}})$



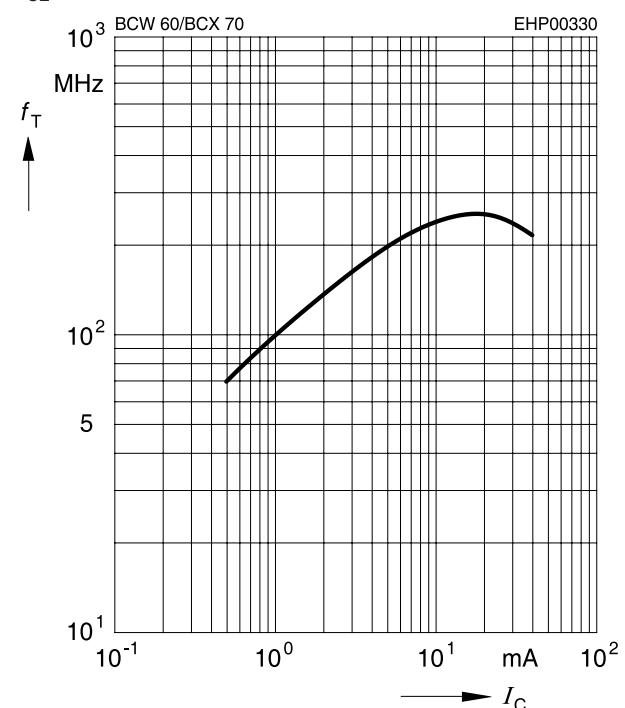
Permissible pulse load

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



Transition frequency  $f_T = f(I_C)$

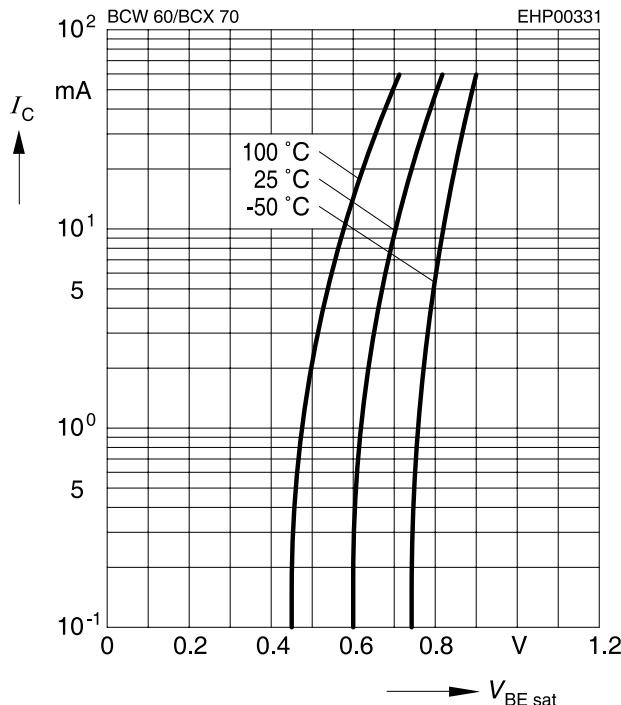
$V_{\text{CE}} = 5\text{V}$



# Silicon Epitaxial Planar Transistor **multicomp**

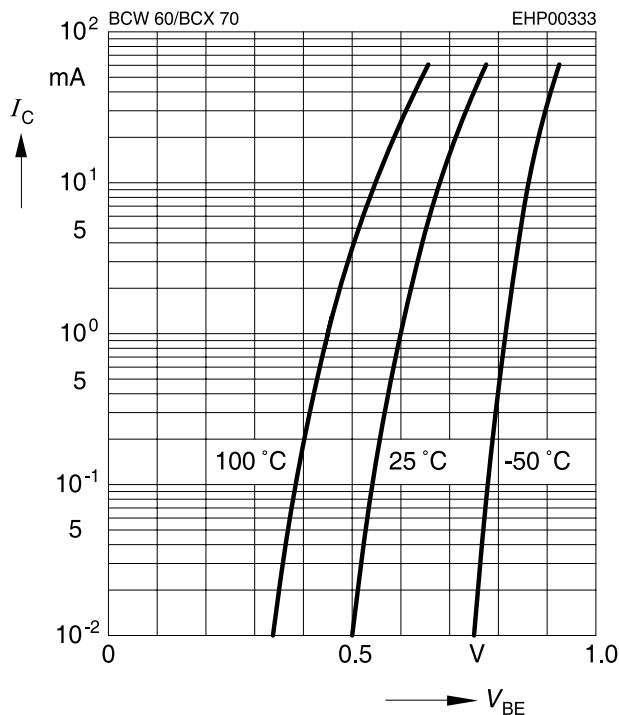
## Base-emitter saturation voltage

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



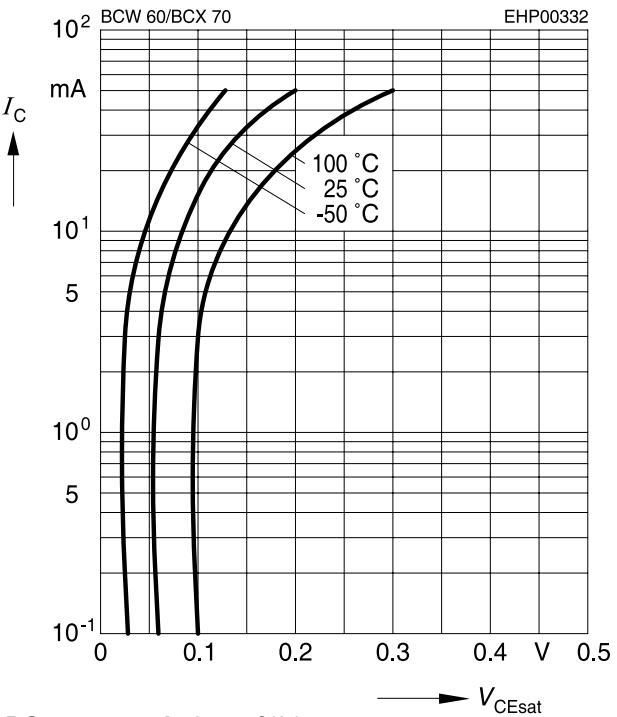
## Collector current $I_C = f(V_{BE})$

$$V_{CE} = 5V$$



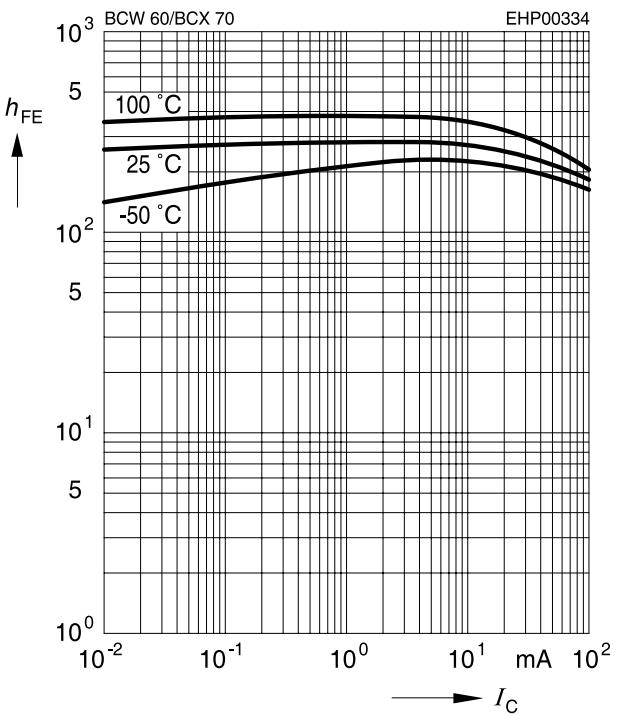
## Collector-emitter saturation voltage

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



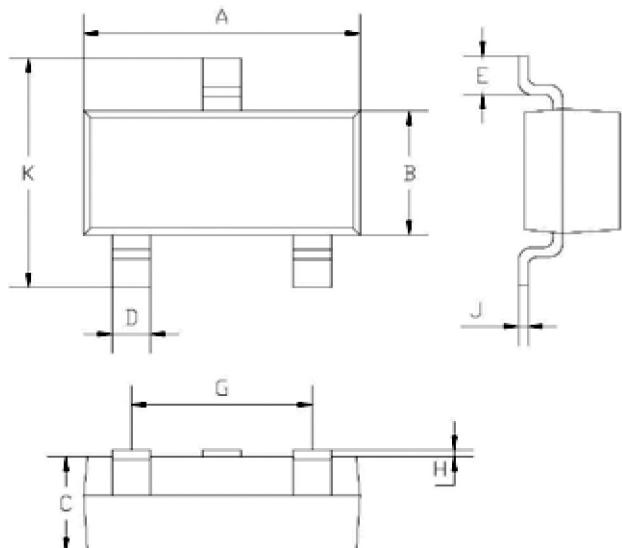
## DC current gain $h_{FE} = f(I_C)$

$$V_{CE} = 5V$$



## Package Outline

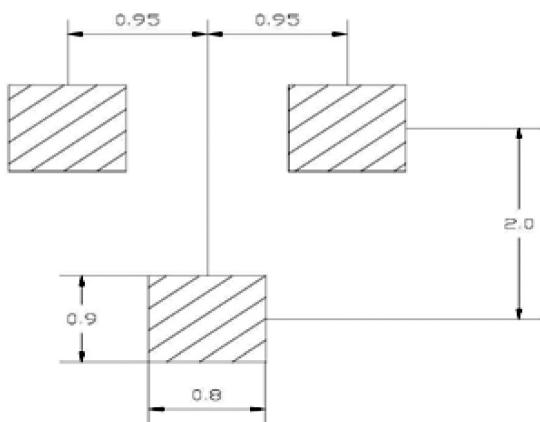
Plastic surface mounted package



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

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