

SOT-89 Plastic-Encapsulate Transistors

Features

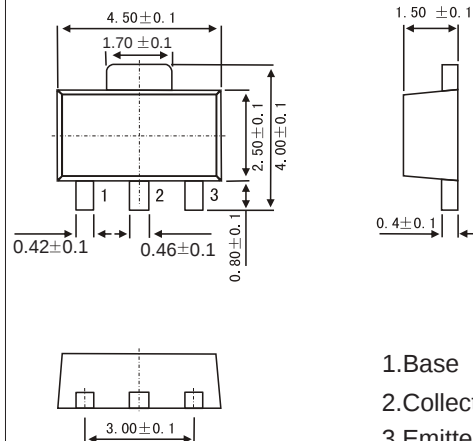
- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary type: BCX 68 (NPN)
- PNP Transistors

MECHANICAL DATA

- Case style:SOT-89molded plastic
- Mounting position:any

SOT-89

Unit:mm



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V _{CB0}	-25	V
Collector - Emitter Voltage	V _{CEO}	-20	
Emitter - Base Voltage	V _{EB0}	-5	
Collector Current - Continuous	I _C	-1	A
Peak Collector Current	I _{CM}	-2	
Base Current	I _B	-100	mA
Peak Base Current	I _{BM}	-200	
Collector Power Dissipation	P _C	1	W
Thermal Resistance.Junction- to-Ambient	R _{thJA}	75	K/W
Thermal Resistance.Case-to-Sink Typ	R _{thJS}	20	
Junction Temperature	T _J	150	°C
Storage Temperature range	T _{stg}	-65 to 150	

PACKAGE INFORMATION

Device	Package	Shipping
BCX69 (KCX69)	SOT-89	1000/Tape&Reel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V _{CB0}	I _C = -100μA, I _E =0	-25			V
Collector- emitter breakdown voltage	V _{CEO}	I _C = -10mA, I _B =0	-20			
Emitter - base breakdown voltage	V _{EB0}	I _E = -100 μ A, I _C =0	-5			
Collector-base cut-off current	I _{CB0}	V _{CB} = -25 V, I _E =0			-100	nA
Collector- base cut-off current Ta=150°C					-10	μA
Emitter cut-off current	I _{EB0}	V _{EB} = -5V, I _C =0			-10	μA
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-1A, I _B =-100mA			-0.5	V
Base - emitter saturation voltage	V _{BE}	I _C = -5mA, V _{CE} =-10V		-0.6		
		I _C = -1A, V _{CE} =-1V			-1	
DC current gain	h _{FE}	V _{CE} = -10V, I _C = -5mA	50			
		V _{CE} =- 1V, I _C = -500mA	85		375	
			85	100	160	
			100	160	250	
			160	250	375	
Transition frequency	f _T	I _C = -1 A, V _{CE} = -1 V	60			MHz
		V _{CE} = -5V, I _C = -100mA,f=20MHz		100		

■ Classification of h_{FE}(2)

Marking	BCX69	BCX69-10	BCX69-16	BCX69-25
Range	CE	CF	CG	CH



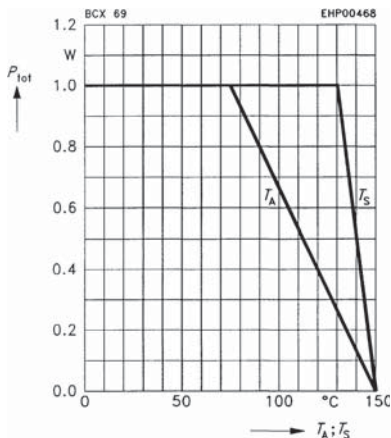
RATINGS AND CHARACTERISTIC CURVES

■ Typical Characteristics

Total power dissipation

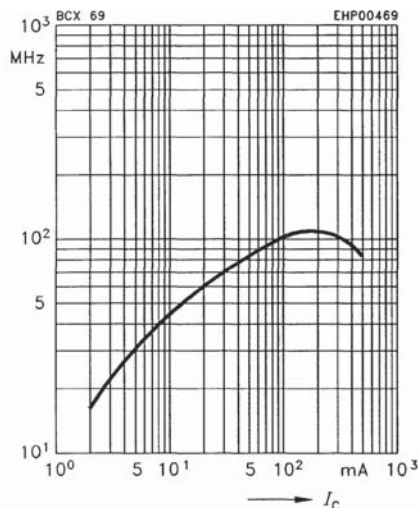
$$P_{tot} = f(T_A^*; T_S)$$

※ Package mounted on epoxy



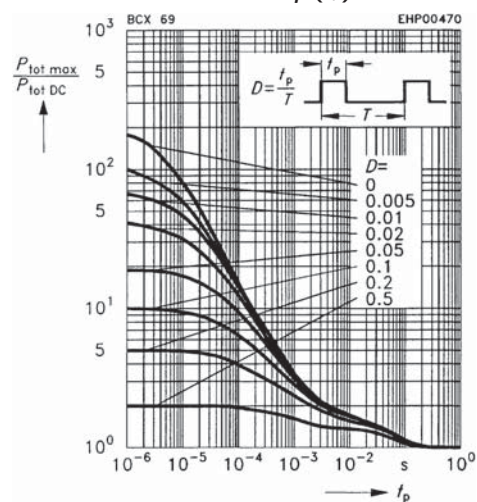
Transition frequency

$$f_T = f(I_C) \quad V_{CE} = 5 \text{ V}$$



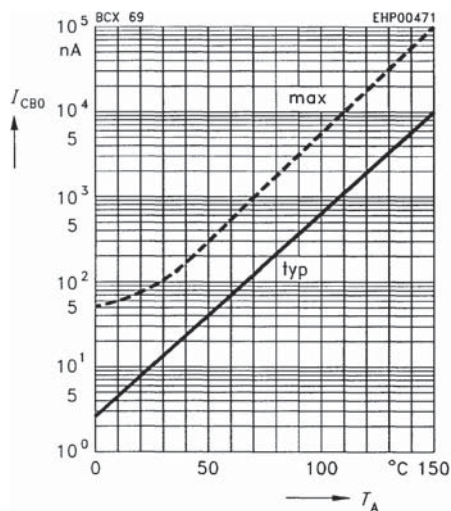
Permissible pulse load

$$P_{tot \text{ max}}/P_{tot \text{ DC}} = f(t_p)$$



Collector cutoff current

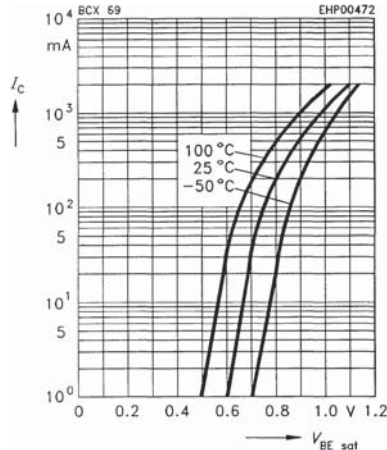
$$I_{CB0} = f(T_A) \quad V_{CB} = 25 \text{ V}$$



Base-emitter saturation voltage

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

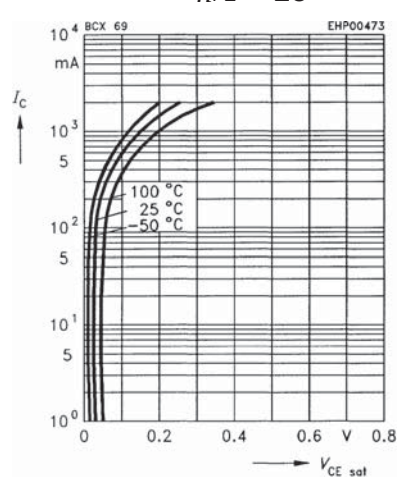
$$h_{FE} = 10$$



Collector-emitter saturation voltage

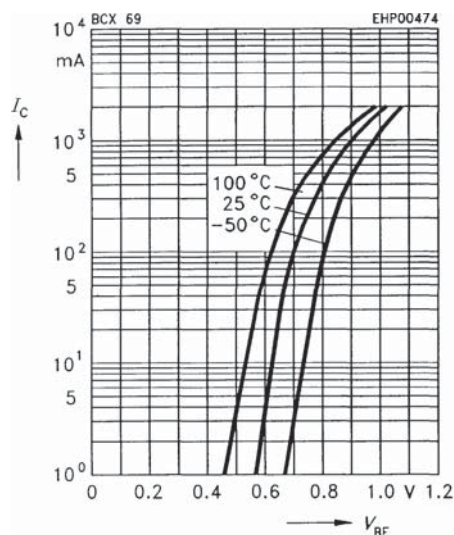
$$I_C = f(V_{CE \text{ sat}})$$

$$h_{FE} = 10$$



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

$$V_{CE} = 1 \text{ V}$$



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

$$V_{CE} = 1 \text{ V}$$

