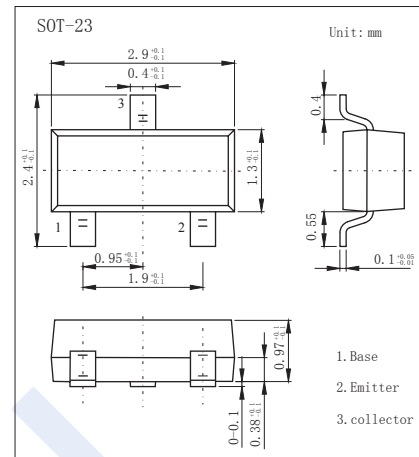


NPN Transistors

BC849~BC850 (KC849~KC850)

■ Features

- Low current (max. 100 mA)
- Low voltage (max. 45 V).
- PNP complements: BC859 and BC860.

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	BC849 BC850	V _{CB0}	30
			50
Collector - Emitter Voltage	BC849 BC850	V _{CE0}	30
			45
Emitter - Base Voltage	V _{EB0}	5	V
Collector Current - Continuous	I _c	100	mA
Peak Collector Current	I _{CM}	200	
Peak Base Current	I _{BM}	200	
Collector Power Dissipation (Note.1)	P _c	250	mW
Thermal Resistance From Junction to Ambient (Note.1)	R _{thja}	500	K/W
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to 150	

Note.1: Transistor mounted on an FR4 printed-circuit board.

NPN Transistors

BC849~BC850 (KC849~KC850)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	BC849 BC850	V _{CB0} I _c = 100 μA, I _E = 0	30			V
			50			
Collector- emitter breakdown voltage	BC849 BC850	V _{CE0} I _c = 1 mA, I _B = 0	30			V
			45			
Emitter - base breakdown voltage	V _{EB0}	I _E = 100 μA, I _C = 0	5			
Collector-base cut-off current	I _{CBO}	V _{CB} = 30 V, I _E = 0			15	nA
		V _{CB} = 30 V, I _E = 0, T _J =150°C			5	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 5V, I _C =0			100	nA
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =10 mA, I _B =0.5mA (Note.1)		90	250	mV
		I _C =100 mA, I _B =5mA (Note.1)		200	500	
Base - emitter saturation voltage	V _{BE(sat)}	I _C =10 mA, I _B =0.5mA (Note.2)		700		mV
		I _C =100 mA, I _B =5mA (Note.2)		900		
Base-Emitter Voltage	V _{BE}	I _C =2 mA, V _{CE} =5V (Note.2)	580	660	700	mV
		I _C =10 mA, V _{CE} =5V (Note.2)			770	
DC current gain	BC849B,BC850B BC849C,BC850C	h _{FE} V _{CE} = 5V, I _C = 10μA		240		
				450		
DC current gain	BC849B,BC850B BC849C,BC850C	h _{FE} V _{CE} = 5V, I _C = 2mA	200	290	450	
			420	520	800	
Collector capacitance	C _c	V _{CB} = 10V, I _C =I _C = 0, f=1MHz		2.5		pF
Emitter capacitance	C _e	V _{EB} = 0.5V, I _E =I _E = 0, f=1MHz		11		pF
Noise Figure	NF	I _C =200μA, V _{CE} =5V, R _S =2KΩ; f=10Hz to 15.7KHz			4	dB
		I _C =200μA, V _{CE} =5V, R _S =2KΩ; f=1KHz, B=200Hz			4	
Transition frequency	f _T	V _{CE} = 5V, I _C = 10mA, f=100MHz	100			MHz

Note.1: V_{BE(sat)} decreases by about 1.7 mV/K with increasing temperature.

Note.2: V_{BE} decreases by about 2 mV/K with increasing temperature.

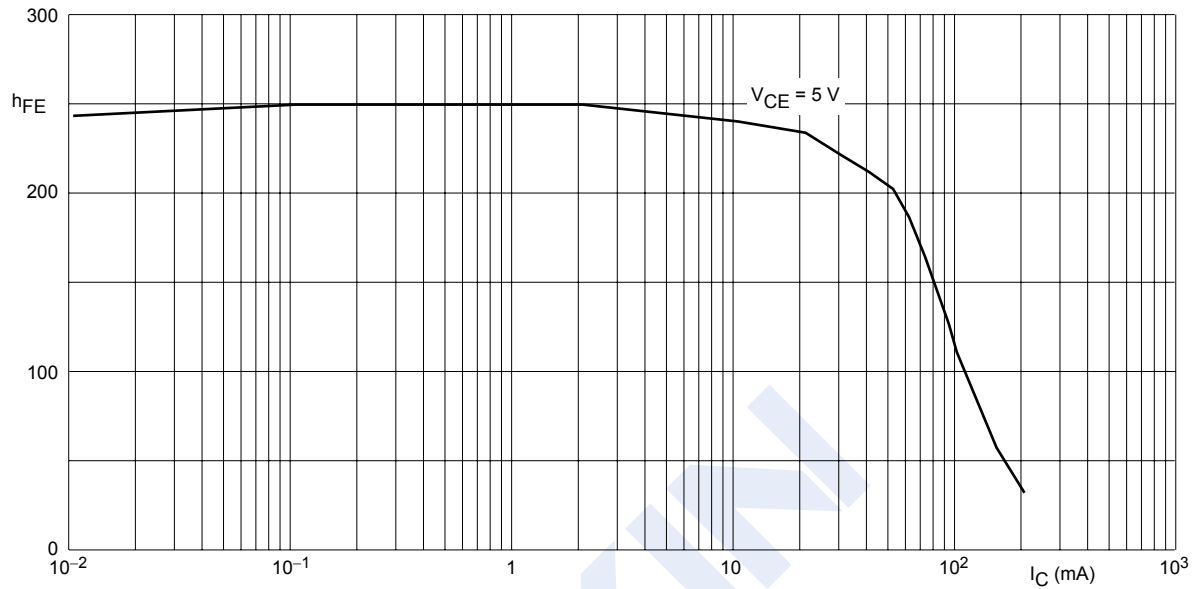
■ Classification of h_{FE}

Type	BC849B	BC849C	BC850B	BC850C
Range	200-450	420-800	200-450	420-800
Marking	2B*	2C*	2F*	2G*

NPN Transistors

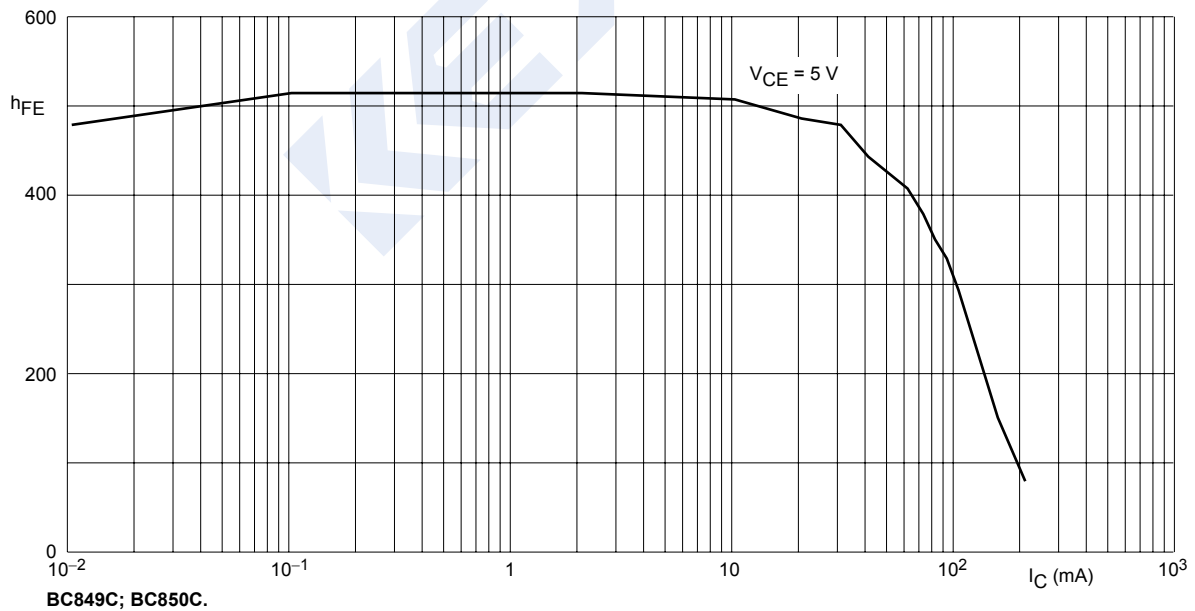
BC849~BC850 (KC849~KC850)

■ Typical Characteristics



BC849B; BC850B.

Fig.2 DC current gain; typical values.



BC849C; BC850C.

Fig.3 DC current gain; typical values.