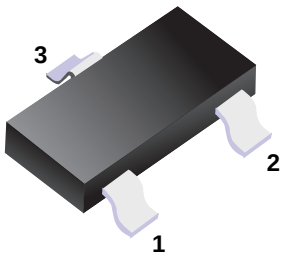
■PNP Transistors



1.Base
2.Emitter
3.Collector

■ **Simplified outline(SOT-23)**

■ Features

- Low current (max. 100 mA)
- Low voltage (max. 45 V).
- NPN complements: BC849 and BC850.

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Collector - Base Voltage	BC859	V_{CBO}	-30	V
	BC860		-50	
Collector - Emitter Voltage	BC859	V_{CEO}	-30	
	BC860		-45	
Emitter - Base Voltage		V_{EBO}	-5	
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	W
Thermal Resistance From Junction to Ambient	(Note.1)	R_{thja}	500	K/W
Junction Temperature		T_J	150	℃
Storage Temperature range		T_{stg}	-55 to 150	

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

■ Electrical Characteristics Ta = 25℃

Parameter		Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	BC859	V_{CBO}	I_C= -100 μA， I_E=0	-30			V
	BC860			-50			
Collector- emitter breakdown voltage	BC859	V_{CEO}	I_C= -1 mA， I_B=0	-30			
	BC860			-45			
Emitter - base breakdown voltage		V_{EBO}	I_E= -100 μ A， I_C=0	-5			
Collector-base cut-off current		I_{CBO}	V_{CB}= -30 V , I_E=0		-1	-15	nA
			V_{CB}= -30 V , I_E=0,T_J = 150℃			-4	uA
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		-75	-300	mV
			I_C=-100 mA, I_B=-5mA		-250	-600	
Base - emitter saturation voltage		$V_{BE(sat)}$	I_C=-10 mA, I_B=-0.5mA (Note.1)		-700		
			I_C=-100 mA, I_B=-5mA (Note.1)		-850		
Base - emitter voltage		V_{BE}	V_{CE}= -5V, I_C= -2mA (Note.2)	-600	-650	-750	
			V_{CE}= -5 V, I_C= -10mA (Note.2)			-820	
DC current gain	BC859B:BC860B	h_{FE}	V_{CE}= -5V, I_C= -2mA	220		475	
	BC859C:BC860C			420		800	
Collector capacitance		C_c	V_{CB}= -10V, I_E=Ie= 0,f=1MHz		4.5		pF
Emitter capacitance		C_e	V_{EB}= -0.5 V, I_C=Ic= 0,f=1MHz		10		
Noise Figure		NF	V_{CE}= -5V, I_C= -200uA,RS=2KΩ f=30HZ to 15KHz			4	dB
			V_{CE}= -5V, I_C= -200uA,RS=2KΩ f=1 KHz,B=200HZ			4	
Transition frequency		f_T	V_{CE}= -5V, I_C= -10mA,f=100MHz	100			MHz

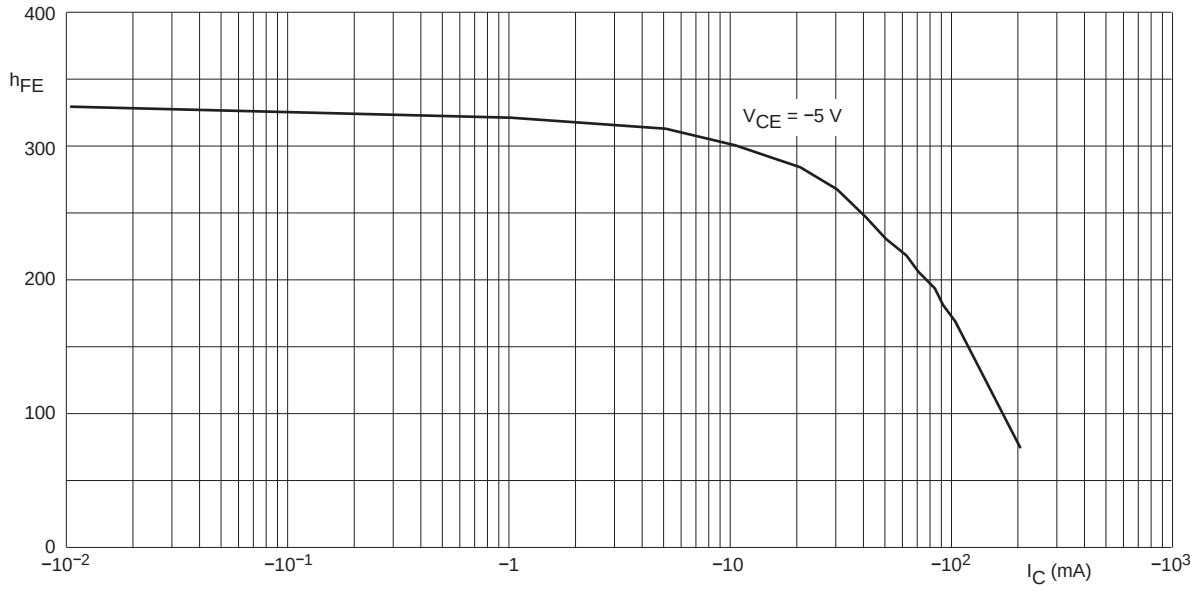
Note.1: V_{BEsat} decreases by about −1.7 mV/K with increasing temperature.

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

■ Classification of h_{fe}

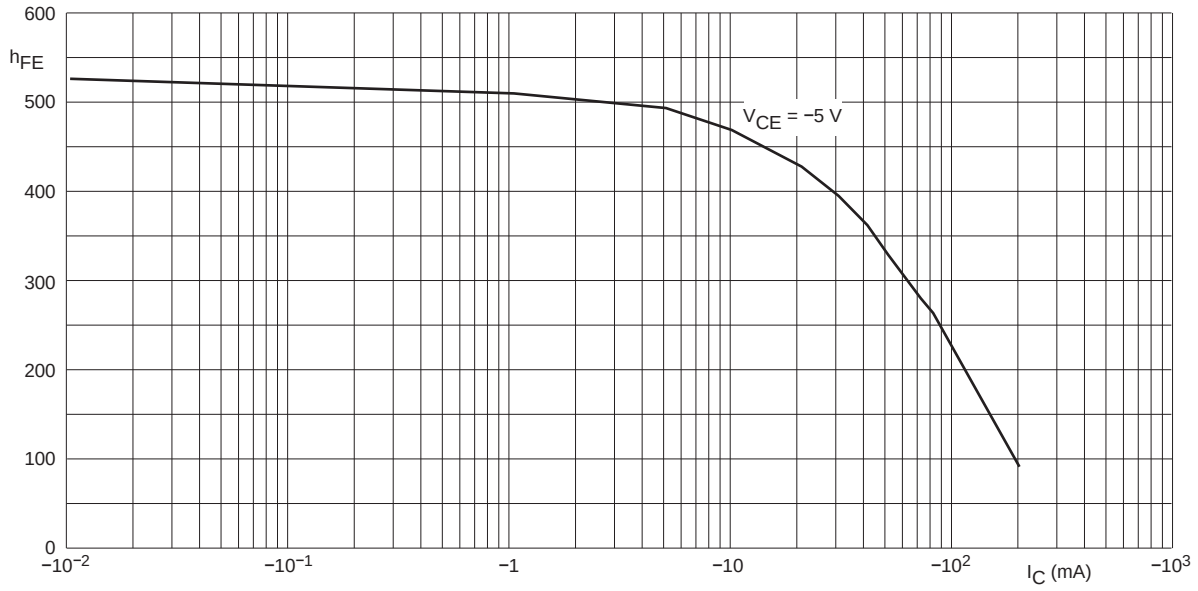
Type	BC859B	BC859C	BC860B	BC860C
Range	220-475	420-800	220-475	420-800
Marking	4B*	4C*	4F*	4G*

■ Typical Characterisitics



BC859B; BC860B.

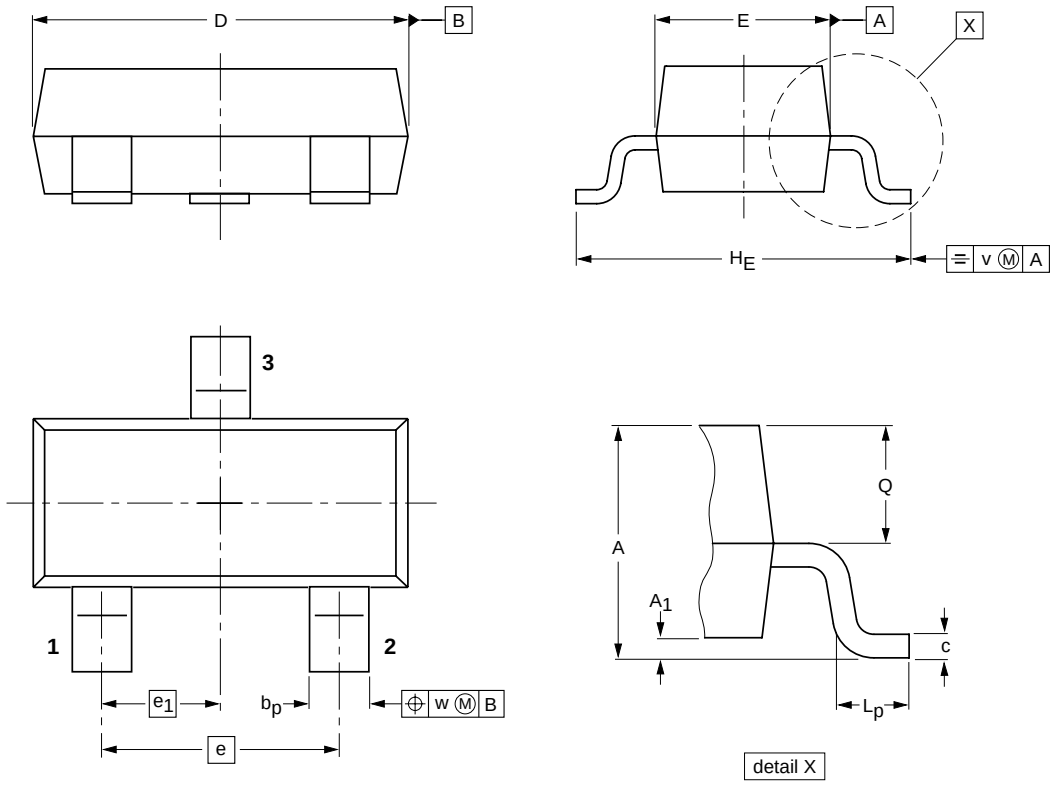
Fig.2 DC current gain; typical values.



BC859C; BC860C.

Fig.3 DC current gain; typical values.

Package Outline SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max.	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel,7"reel	3000	EIA-481-1