

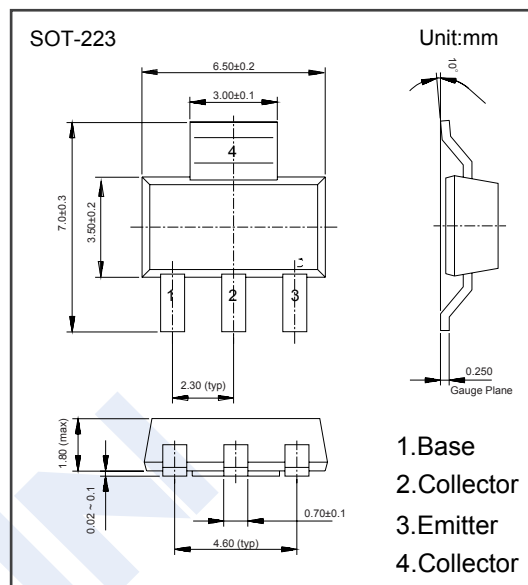
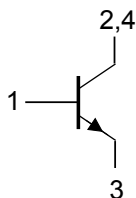
NPN Transistors

BCP54,BCP55,BCP56

(KCP54,KCP55,KCP56)

■ Features

- High current (max. 1 A)
- Low voltage (max. 80 V)
- Complements to BCP51, BCP52 and BCP53.



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	45	V
		60	
		100	
Collector - Emitter Voltage	V_{CE0}	45	
		60	
		80	
Emitter - Base Voltage	V_{EB0}	5	A
Collector Current - Continuous	I_C	1	
Collector Current - Pulse	I_{CP}	1.5	
Base Current - Pulse	I_{BP}	0.2	
Collector Power Dissipation	P_C	1.33	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	94	$^\circ\text{C/W}$
Thermal Resistance from Junction to Soldering Point	$R_{\theta JS}$	13	
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature range	T_{stg}	-65 to 150	

■ Classification of $h_{fe}(2)$

Type	BCP54	BCP54-10	BCP54-16	BCP55	BCP55-10	BCP55-16	BCP56	BCP56-10	BCP56-16
Range	63-250	63-160	100-250	63-250	63-160	100-250	63-250	63-160	100-250
Marking	BCP54	BCP54-10	BCP54-16	BCP55	BCP55-10	BCP55-16	BCP56	BCP56-10	BCP56-16

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■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	BCP54 BCP55 BCP56	$I_c = 100\ \mu\text{A}, I_E = 0$	45			V
			60			
			100			
Collector- emitter breakdown voltage	BCP54 BCP55 BCP56	$I_c = 1\ \text{mA}, I_B = 0$	45			V
			60			
			80			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100\ \mu\text{A}, I_c = 0$	5			
Collector-base cut-off current	BCP54 BCP55 BCP56	$V_{CB} = 30\ \text{V}, I_E = 0$			100	nA
		$V_{CB} = 50\ \text{V}, I_E = 0$				
		$V_{CB} = 80\ \text{V}, I_E = 0$				
		$V_{CB} = 30\ \text{V}, I_E = 0, T_J = 125^\circ\text{C}$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\ \text{V}, I_c = 0$			100	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 500\ \text{mA}, I_B = 50\ \text{mA}$			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = 500\ \text{mA}, I_B = 50\ \text{mA}$			1.2	
Base - emitter voltage	V_{BE}	$V_{CE} = 2\ \text{V}, I_c = 500\ \text{mA}$			1	
DC current gain	h_{FE}	$V_{CE} = 2\ \text{V}, I_c = 5\ \text{mA}$	25			
		$V_{CE} = 2\ \text{V}, I_c = 150\ \text{mA}$	63		250	
		$V_{CE} = 2\ \text{V}, I_c = 500\ \text{mA}$	25			
Transition frequency	f_T	$V_{CE} = 5\ \text{V}, I_c = 10\ \text{mA}, f = 100\ \text{MHz}$		130		MHz

■ Typical Characteristics

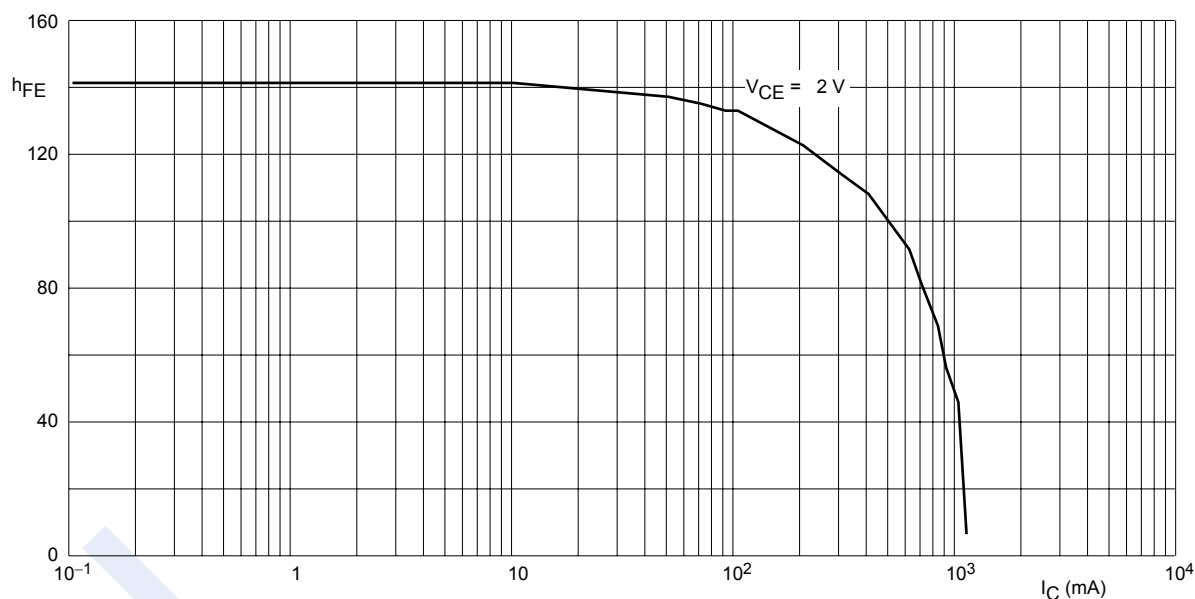


Fig.1 DC current gain; typical values.