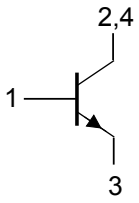
BCP68T1G

NPN Transistors

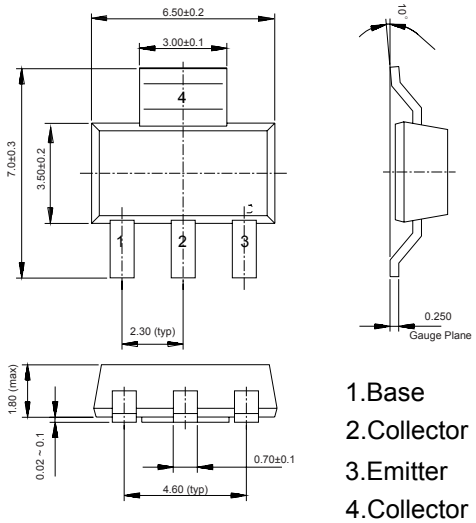
■ Features

- High current (max. 1 A)
- Low voltage (max. 20 V)



SOT-223

Unit:mm



1.Base
2.Collector
3.Emitter
4.Collector

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	32	V
Collector - Emitter Voltage	V_{CEO}	20	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	1	A
Collector Current - Pulse	I_{CP}	2	
Base Current - Pulse	I_{BP}	0.2	
Collector Power Dissipation	P_C	1.37	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	91	℃/W
Thermal Resistance from Junction to Soldering Point	$R_{\theta JS}$	10	
Junction Temperature	T_J	150	℃
Storage Temperature range	T_{stg}	-65 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA， I_E=0	32			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA， I_B=0	20			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A， I_C=0	5			
Collector-base cut-off current	I_{CBO}	V_{CB}= 25 V , I_E=0			100	nA
		V_{CB}= 25 V , I_E=0,T_J=150℃			10	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 5V , I_C=0			100	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1 A, I_B=100mA			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=1 A, I_B=100mA			1.2	
Base - emitter voltage	V_{BE}	V_{CE}= 10V, I_C= 5mA		0.62		
		V_{CE}= 1V, I_C= 1 A			1	
DC current gain	h_{FE}	V_{CE}= 10V, I_C= 5mA	50			
		V_{CE}= 1V, I_C= 500mA	85		375	
		V_{CE}= 1V, I_C= 1 A	60			
Collector capacitance	C_{ob}	V_{CB}= 5V, I_E= Ie=0,f=1MHz		38		pF
Transition frequency	f_T	V_{CE}= 5V, I_C= 10mA,f=100MHz	40			MHz

■ Typical Characterisitics

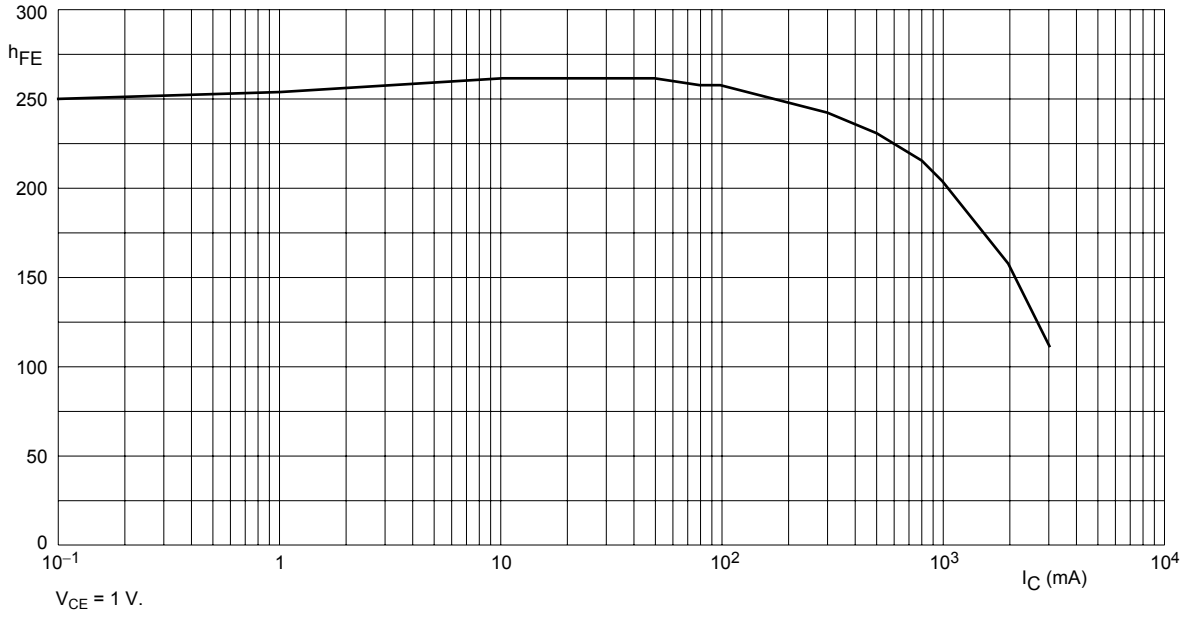


Fig.1 DC current gain; typical values.