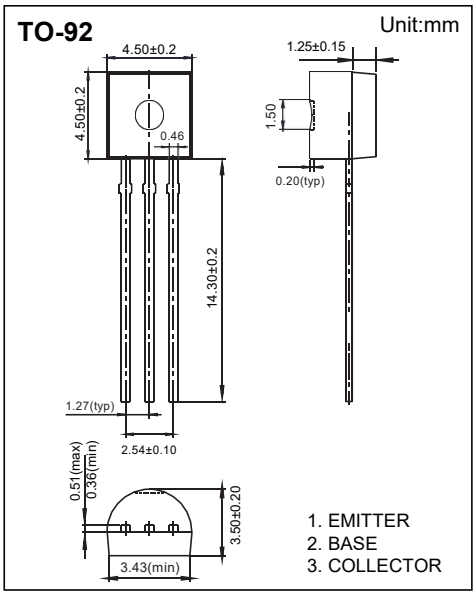
NPN Transistor

S9014



■ Features

- High Total Power Dissipation.(P_C=0.45W)
- High hFE and Good Linearity
- Complementary to S9015

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	50	V
Collector - Emitter Voltage	V_{CEO}	45	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	0.1	A
Collector Power Dissipation	P_C	0.45	W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collecto- base breakdown voltage	V_{CBO}	I_C= 100 μA， I_E=0	50			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA， I_B=0	45			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μA， I_C=0	5			
Collector cut-off current	I_{CBO}	V_{CB}= 50 V , I_E=0			0.1	μA
Collector cut-off current	I_{CEO}	V_{CB}= 35 V , I_B=0			1	
Emitter cut-off current	I_{EBO}	V_{EB}= 5V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100 mA, I_B= 5mA			0.3	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=100 mA, I_B= 5mA			1	
DC current gain	h_{FE}	V_{CE}= 5V, I_C= 1mA	60		1000	
Transition frequency	f_T	V_{CE}= 5V, I_C= 10mA,f=30MHz	150			MHz

■ Classification of hFE

Rank	A	B	C	D
Range	60-150	100-300	200-600	400-1000

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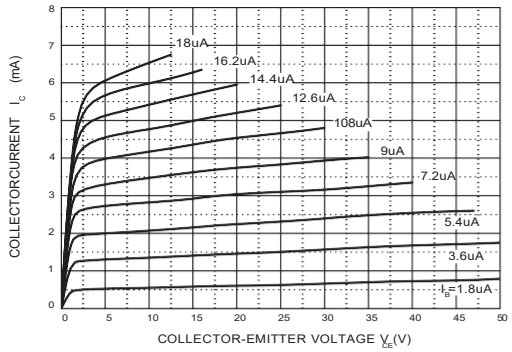
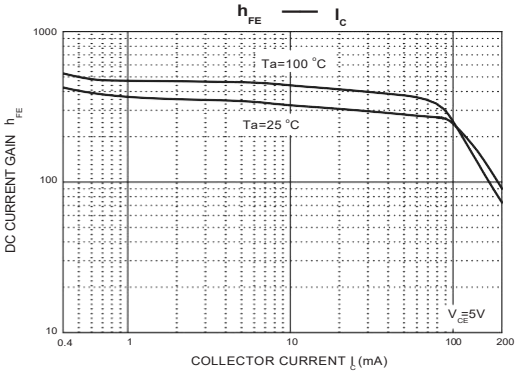
■ Typical Characterisitics

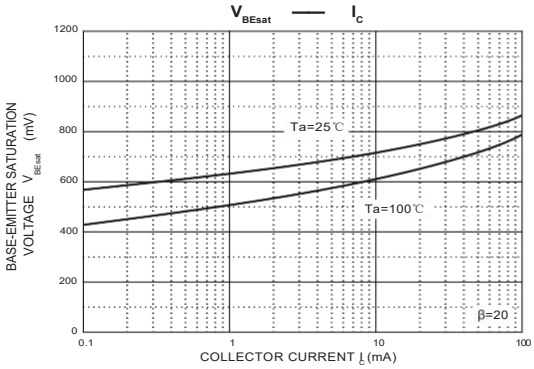
Static Characteristic



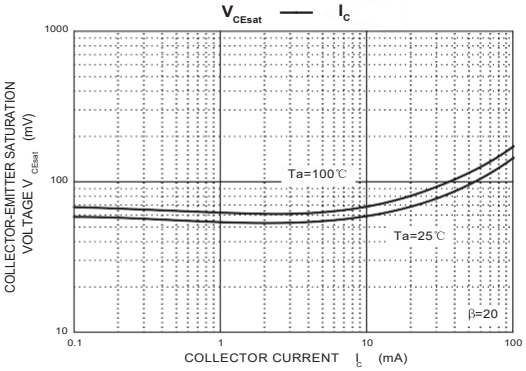
h_{FE} —— I_C



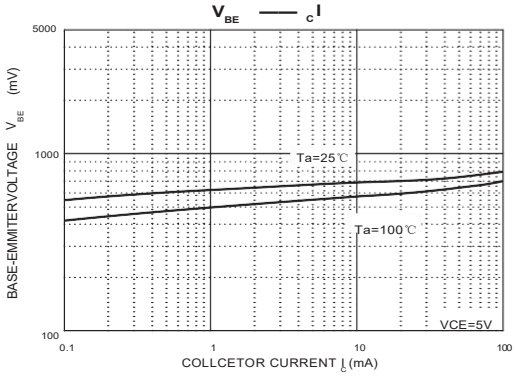
V_{BEsat} —— I_C



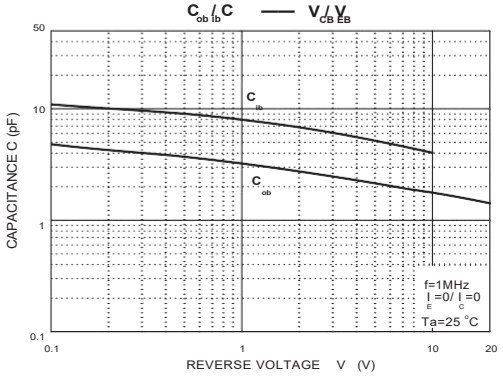
V_{CEsat} —— I_C



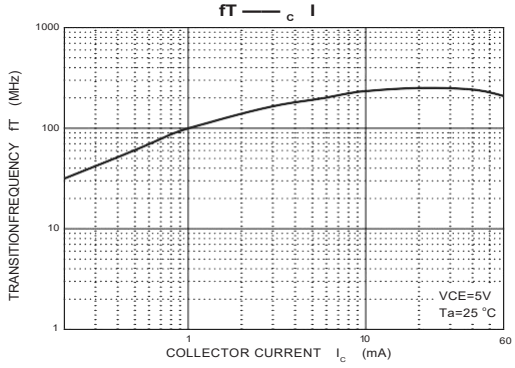
V_{BE} —— $_C$I



C_{ob}/$_{Ib}$C —— V_{CB}/V_{EB}



fT —— $_C$ I



Pc —— Ta