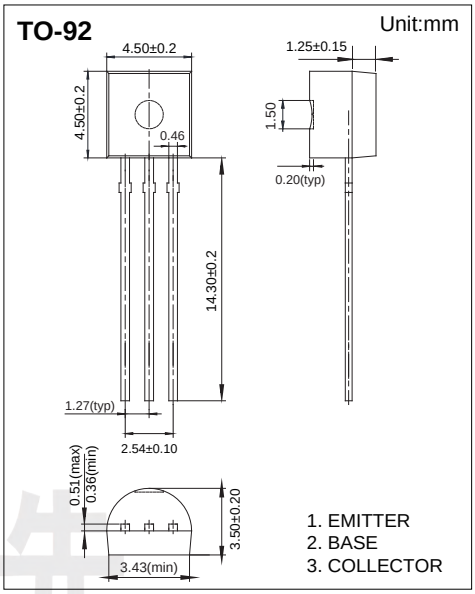
NPN Transistors

A42



■ Features

- Collector current: I_C=0.2A
- High voltage
- Complementary to A92

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	310	V
Collector - Emitter Voltage	V_{CEO}	305	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	200	mA
Collector Current -Pulsed	I_{CM}	500	
Collector Power Dissipation	P_C	625	mW
Thermal Resistance, junction to Ambient	$R_{\theta JA}$	200	℃/mW
Thermal Resistance, junction to Case	$R_{\theta JC}$	83.3	
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 to 150	

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collecto- base breakdown voltage	V_{CBO}	I_C= 100 μA， I_E=0	310			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA， I_B=0	305			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μA， I_C=0	5			
Collector cut-off current	I_{CBO}	V_{CB}= 200 V , I_E=0			0.25	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 5V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=20 mA, I_B= 2mA			0.2	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=20 mA, I_B= 2mA			0.9	
DC current gain	$h_{FE(1)}$	V_{CE}= 10V, I_C= 1mA	60			
	$h_{FE(2)}$	V_{CE}= 10V, I_C= 10mA	80		250	
	$h_{FE(3)}$	V_{CE}= 10V, I_C= 30mA	75			
Transition frequency	f_T	V_{CE}= 20V, I_C= 10mA,f=30MHz	50			MHz

■ Classification of hFE(2)

Rank	A	B	C
Range	80-100	100-200	200-250

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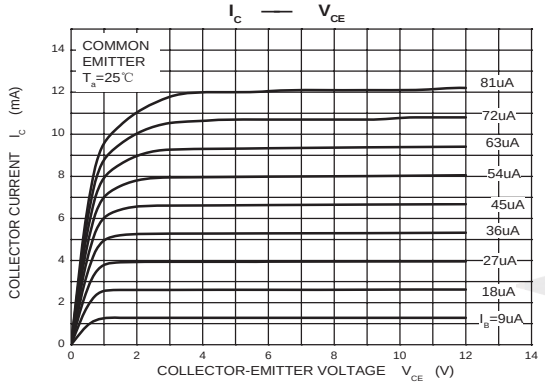
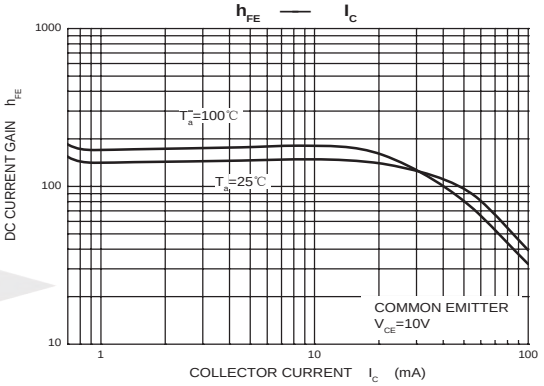
■ Typical Characterisitics

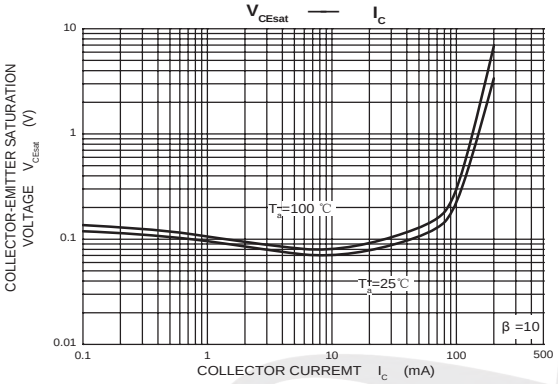
I_C — V_{CE}



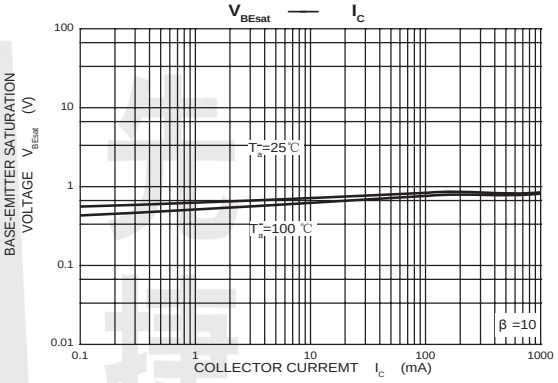
h_{FE} — I_C



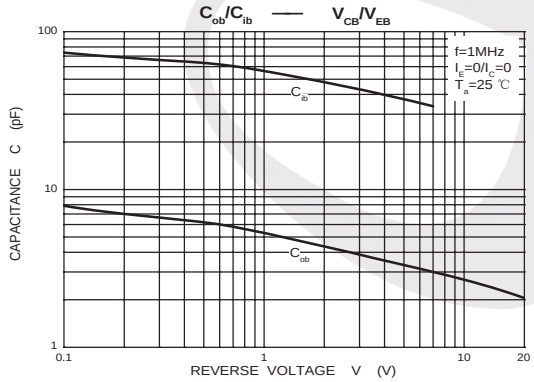
V_{CEsat} — I_C



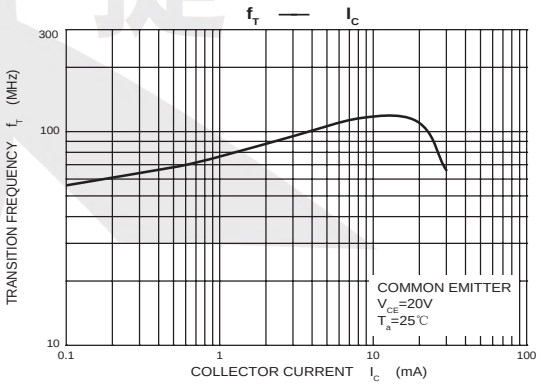
V_{BEsat} — I_C



C_{ob}/C_{ib} — V_{CB}/V_{EB}



f_T — I_C



P_C — T_a