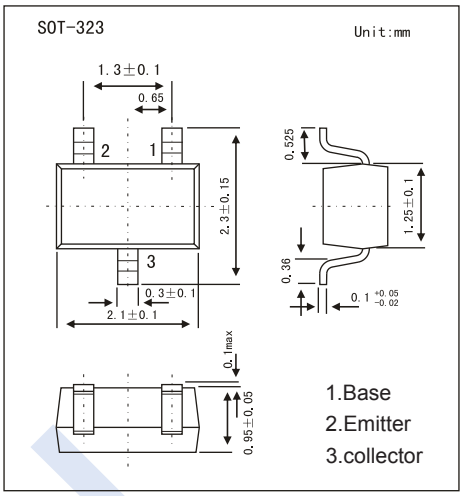
NPN Transistors

BC817W (KC817W)



■ Features

- For General AF Applications
- High Collector Current
- High Current Gain
- Low Collector-Emitter Saturation Voltage
- Complementary to BC807W

■ 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	0.5	A
Collector Power Dissipation	P_C	0.2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature range	T_{stg}	-55 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	50			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 10 mA, I_B=0	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}= 50 V , I_E=0			0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 5V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500 mA, I_B=50mA			0.7	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=500 mA, I_B=50mA			1.2	
Base-emitter voltage	$V_{BE(on)}$	V_{CE}= 1V, I_C= 500mA			1.2	
DC current gain	$h_{FE(1)}$	V_{CE}= 1V, I_C= 100mA	100		600	
	$h_{FE(2)}$	V_{CE}= 1V, I_C= 500mA	40			
Collector output capacitance	C_{ob}	V_{CB}= 10V,f=1MHz			5	pF
Transition frequency	f_T	V_{CE}= 5V, I_C= 10mA,f=100MHz	100			MHz

■ Classification of $h_{fe(1)}$

Type	BC817-16W	BC817-25W	BC817-40W
Range	100-250	160-400	250-600
Marking	6A	6B	6C

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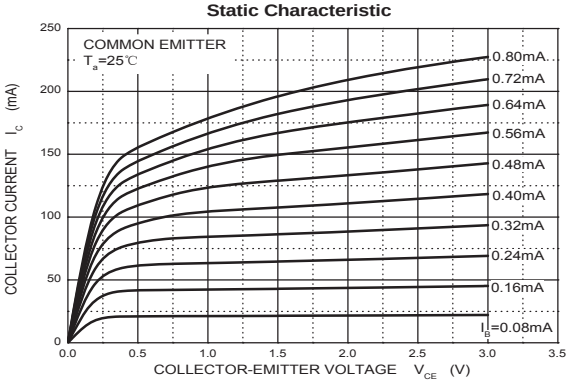
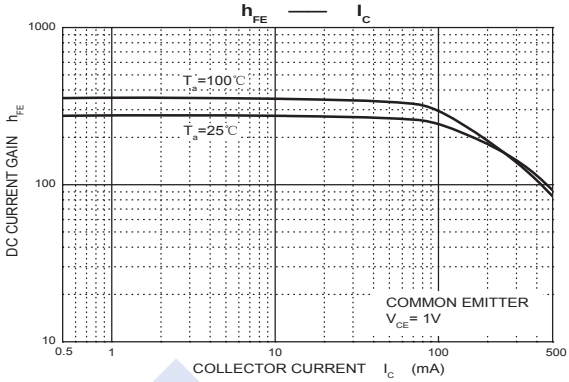
■ Typical Characterisitics

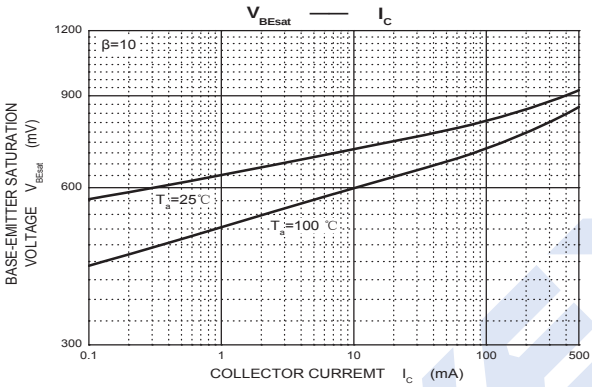
Static Characteristic



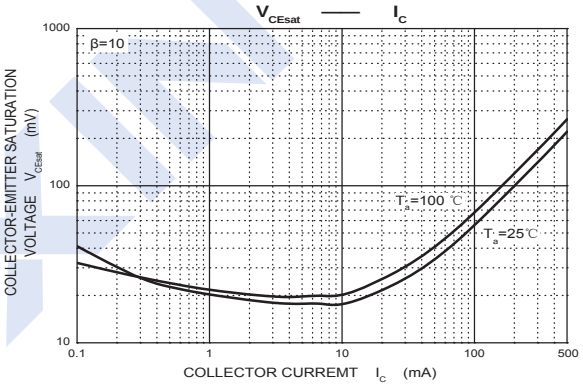
h_{FE} —— I_C



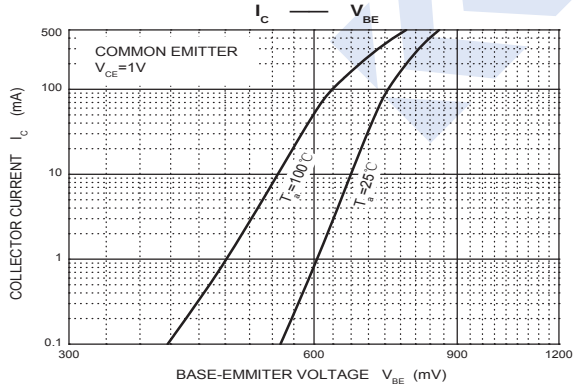
V_{BEsat} —— I_C



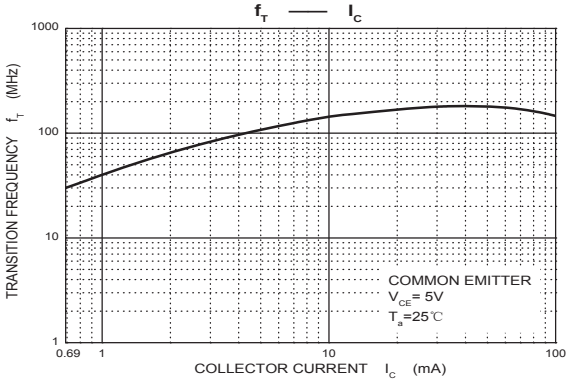
V_{CEsat} —— I_C



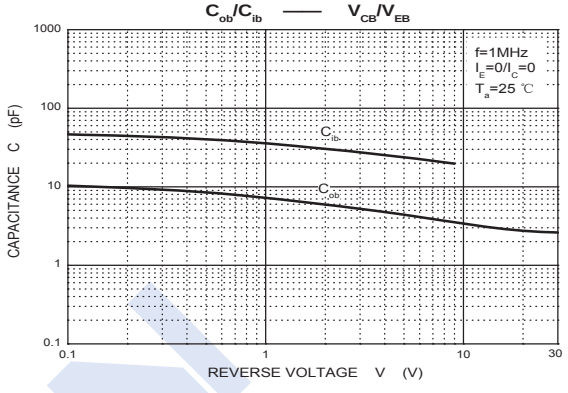
I_C —— V_{BE}



f_T —— I_C



C_{ob}/C_{ib} —— V_{CB}/V_{EB}



P_C —— T_a