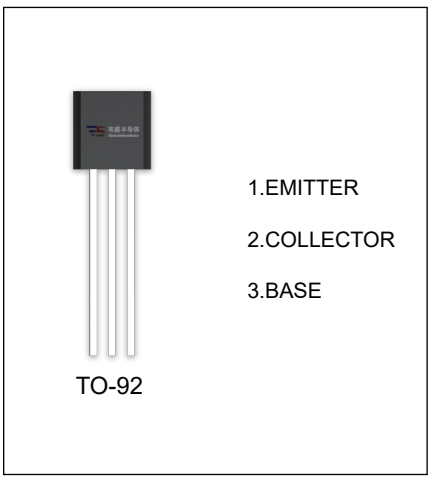
2SC1959 TRANSISTOR (NPN)



FEATURES

- **Excellent h_{FE} Linearlity**

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SC1959	TO-92	Bulk	1000pcs/Bag
2SC1959-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	35	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current –Continuous	0.5	A
P_C	Collector Power Dissipation	500	mW
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55-150	℃

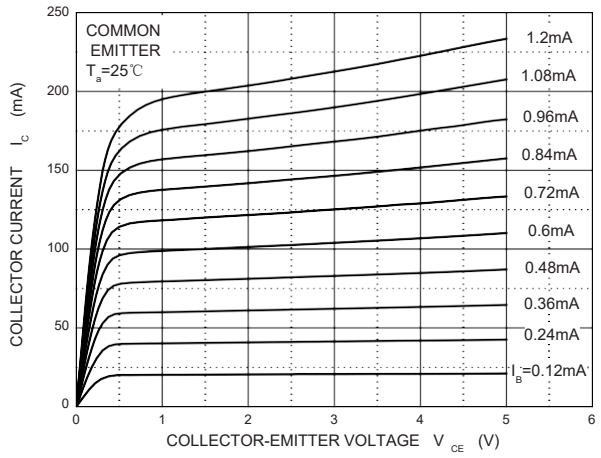
T_a=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 100μA, I_E=0	35			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 1mA , I_B=0	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}= 35V, I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 5 V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=1 V, I_C= 100mA	70		400	
	$h_{FE(2)}$	V_{CE}=6 V, I_C= 400mA	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C= 100mA, I_B= 10mA			0.25	V
Base-emitter voltage	V_{BE}	V_{CE}= 1V, I_C= 100mA			1.0	V
Transition frequency	f_T	V_{CE}= 6V, I_C=20mA		300		MHz
Collector output capacitance	C_{ob}	V_{CB}=6V,I_E=0,f=1MHz		7		pF

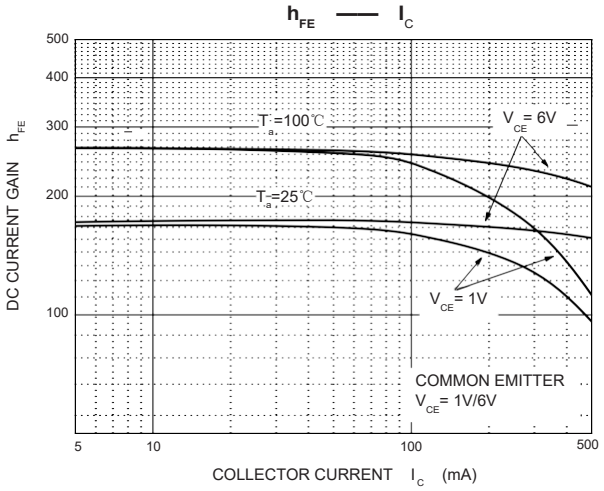
CLASSIFICATION OF h_{FE}

Rank		O	Y	GR
Ra nge	$h_{FE(1)}$	70-140	120-240	200-400
	$h_{FE(2)}$	25(min)	40(min)	

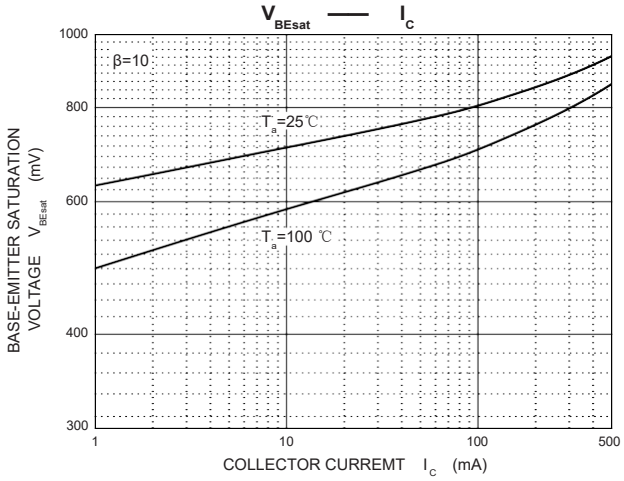
Static Characteristic



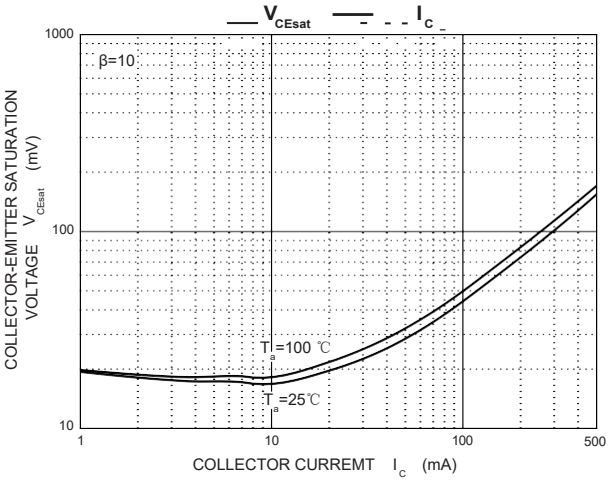
h_{FE} —— I_C



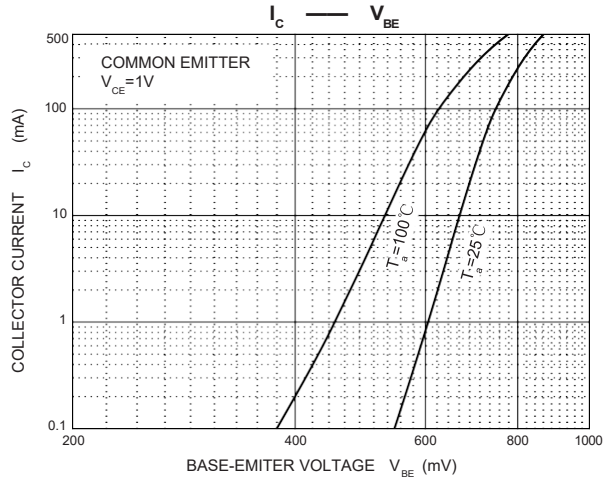
V_{BEsat} —— I_C



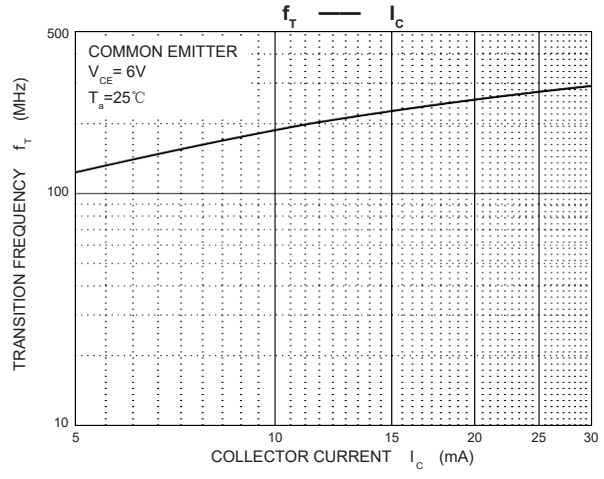
V_{CEsat} —— I_C



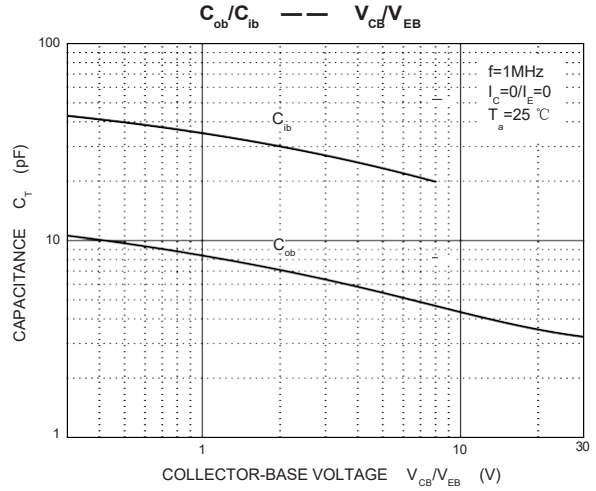
I_C —— V_{BE}



f_T —— I_C



C_{ob}/C_{ib} —— V_{CB}/V_{EB}



P_C —— T_a