

Description

- General purpose transistor

Feature

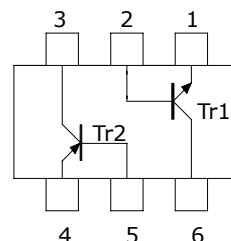
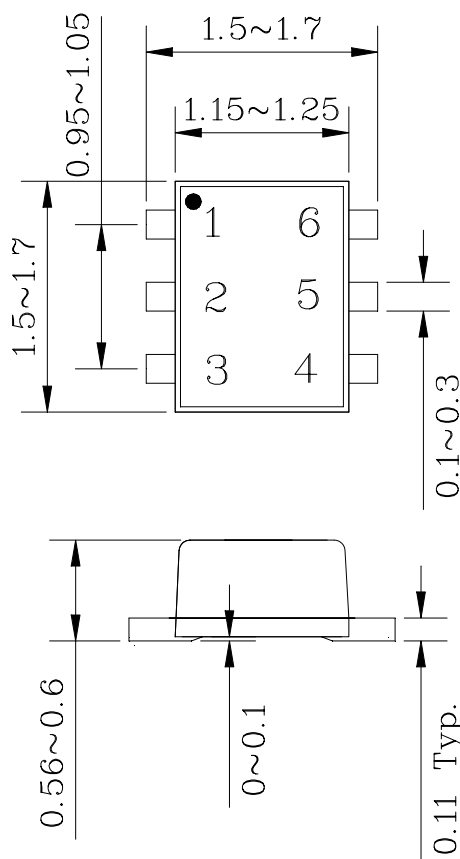
- Both 2SA1980 chip and 2SC5343 chip in SOT-563F package

Ordering Information

Type NO.	Marking	Package Code
SUT509EF	3X	SOT-563F

Outline Dimensions

unit : mm



PIN Connections

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

Absolute maximum ratings (Tr1, Tr2)

Ta=25°C

Characteristic	Symbol	Ratings		Unit
		Tr1	Tr2	
Collector-Base voltage	V _{CBO}	60	-50	V
Collector-Emitter voltage	V _{CEO}	50	-50	V
Emitter-base voltage	V _{EBO}	5	-5	V
Collector current	I _C	150	-150	mA
Collector dissipation	P _C	100		mW
Junction temperature	T _j	150		°C
Storage temperature range	T _{stg}	-55~150		°C

Electrical Characteristics (Tr1 : NPN)

Ta=25°C

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV _{CBO}	I _C =100μA, I _E =0	60	-	-	V
Collector-Emitter breakdown voltage	BV _{CEO}	I _C =1mA, I _B =0	50	-	-	V
Emitter-Base breakdown voltage	BV _{EBO}	I _E =10μA, I _C =0	5	-	-	V
Collector cut-off current	I _{CBO}	V _{CB} =60V, I _E =0	-	-	0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0	-	-	0.1	μA
DC current gain	h _{FE}	V _{CE} =6V, I _C =2mA	70	-	700	-
Collector-Emitter saturation voltage	V _{CE(sat)}	I _C =100mA, I _B =10mA	-	-	0.25	V
Transition frequency	f _T	V _{CE} =10V, I _C =1mA, f=100MHz	80	-	-	MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz	-	2	3.5	pF

Electrical Characteristics (Tr2 : PNP)

Ta=25°C

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV _{CBO}	I _C =-100μA, I _E =0	-50	-	-	V
Collector-Emitter breakdown voltage	BV _{CEO}	I _C =-1mA, I _B =0	-50	-	-	V
Emitter-Base breakdown voltage	BV _{EBO}	I _E =-10μA, I _C =0	-5	-	-	V
Collector cut-off current	I _{CBO}	V _{CB} =-50V, I _E =0	-	-	-0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =-5V, I _C =0	-	-	-0.1	μA
DC current gain	h _{FE}	V _{CE} =-6V, I _C =-2mA	120	-	400	-
Collector-Emitter saturation voltage	V _{CE(sat)}	I _C =-100mA, I _B =-10mA	-	-	-0.3	V
Transition frequency	f _T	V _{CE} =-10V, I _C =-1mA, f=100MHz	80	-	-	MHz
Collector output capacitance	C _{ob}	V _{CB} =-10V, I _E =0, f=1MHz	-	4	7	pF

Electrical Characteristic Curves

Tr1 : NPN

Fig. 1 I_C - V_{BE}

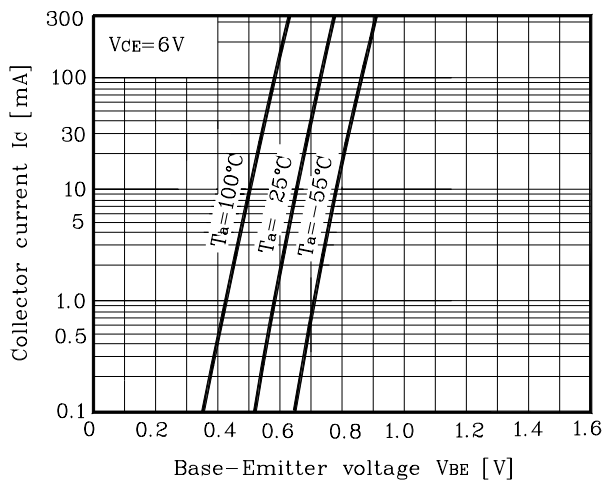


Fig. 2 I_C - V_{CE}

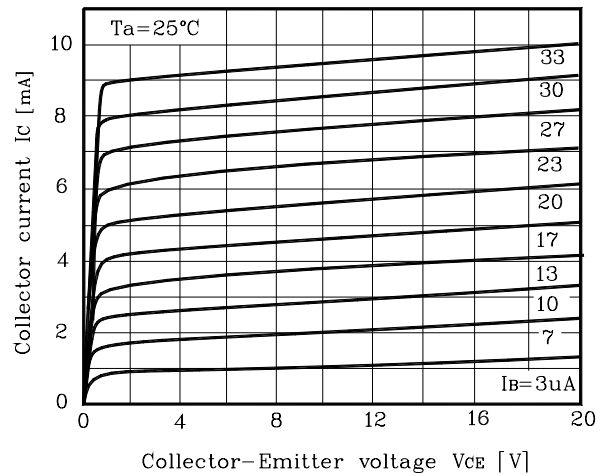


Fig. 3 h_{FE} - I_C

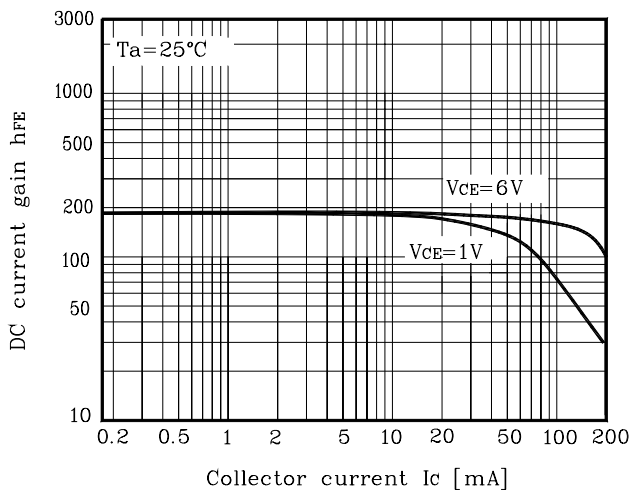
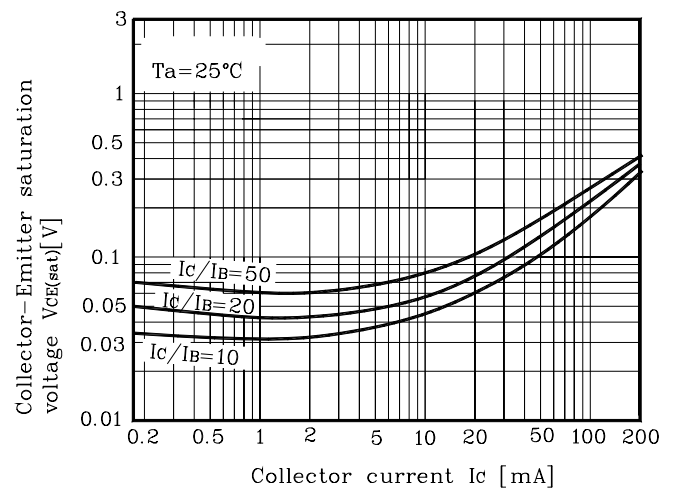


Fig. 4 $V_{CE(sat)}$ - I_C



Tr2 : PNP

Fig. 1 I_C - V_{BE}

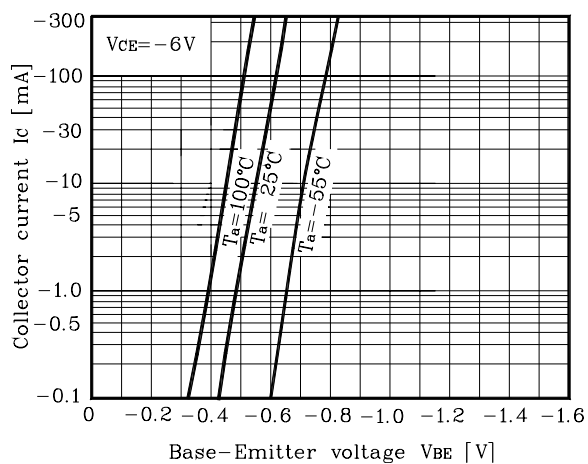
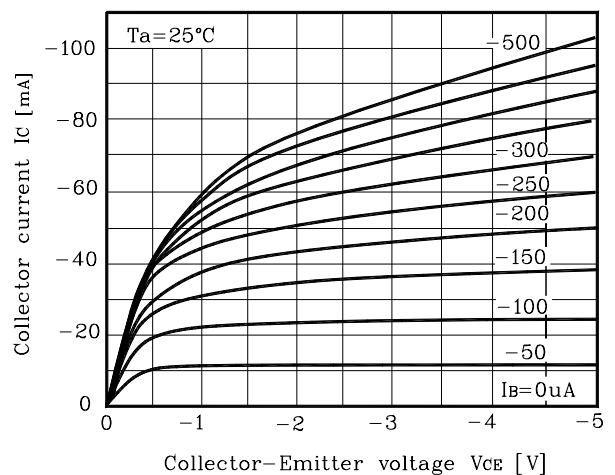


Fig. 2 I_C - V_{CE}



Electrical Characteristic Curves

Fig. 3 h_{FE} - I_C

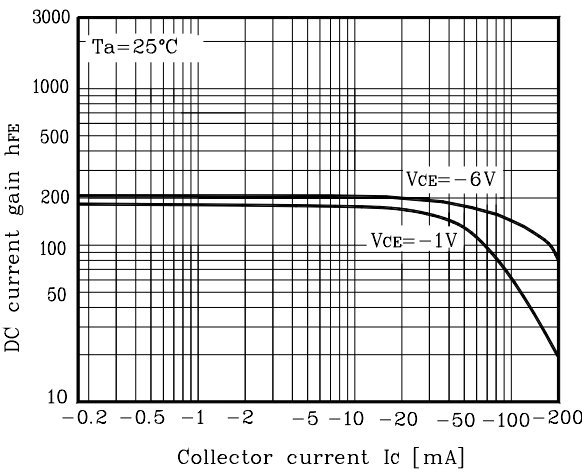
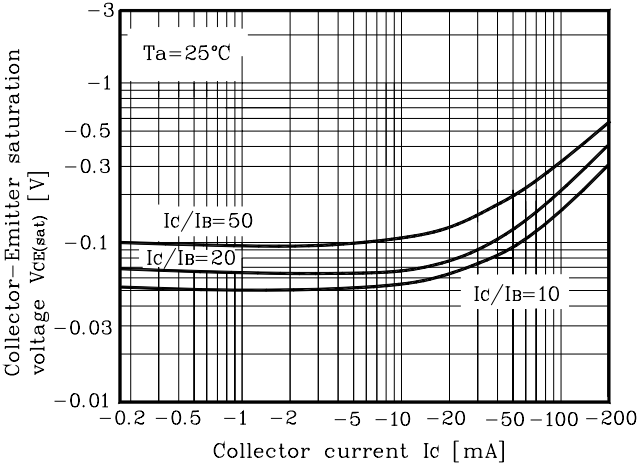


Fig. 4 $V_{CE(sat)}$ - I_C



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