AUK Semiconductor

SUT497H

NPN/PNP Epitaxial Planar Silicon Transistor

Descriptions

- General purpose transistor

Features

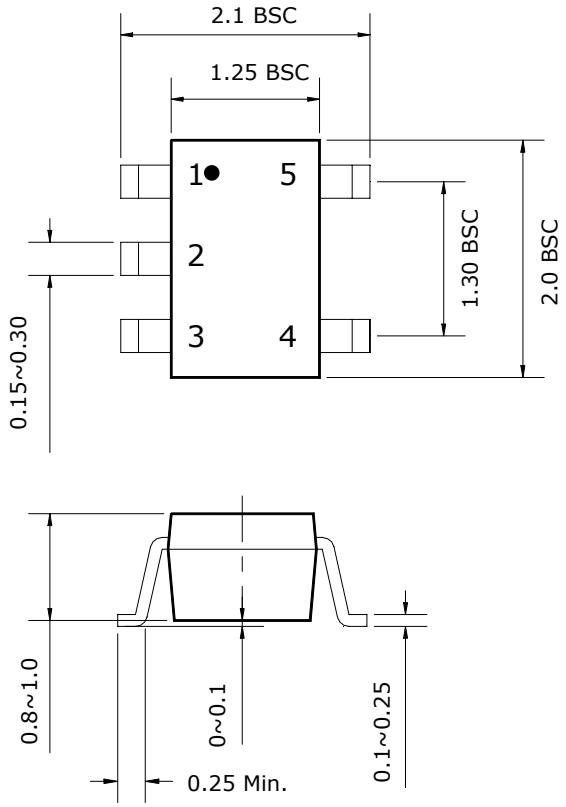
- Both 2SA1980 chip and 2SC5343 chip in SOT-353 package

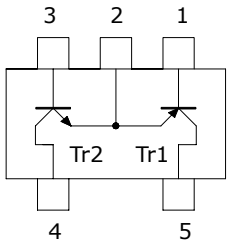
Ordering Information

Type NO.	Marking	Package Code
SUT497H	X8	SOT-353

Outline Dimensions

unit : mm





PIN Connections

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

Absolute maximum ratings (Tr1, Tr2)

Ta=25°C

Characteristic	Symbol	Ratings		Unit
		Tr1	Tr2	
Collector-Base voltage	V_{CBO}	-50	60	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	150		mW
Junction temperature	T_j	150		°C
Storage temperature range	T_{stg}	-55~150		°C

Electrical Characteristics (Tr1 : 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 Characteristics (Tr2 : 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 Characteristic Curves

Tr1 : PNP

Fig. 1 I_C -V_{BE}

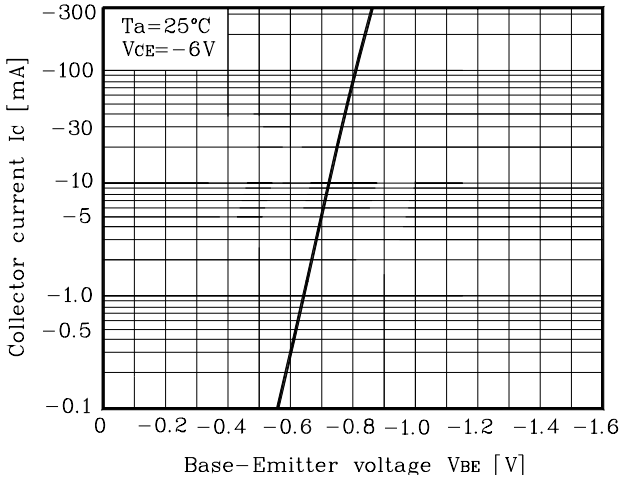


Fig. 2 I_C -V_{CE}

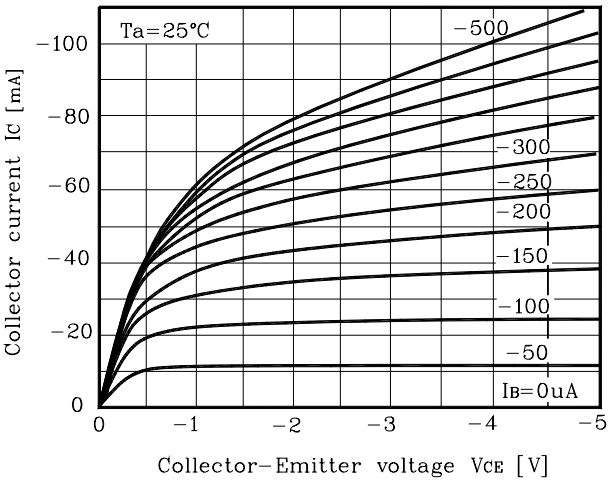


Fig. 3 h_{FE}-I_C

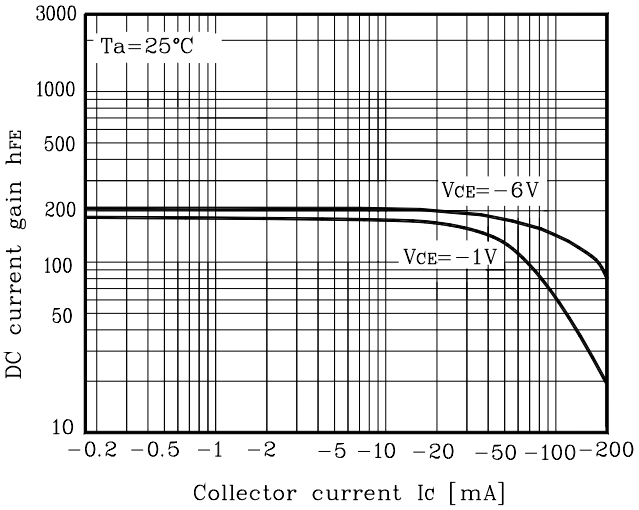
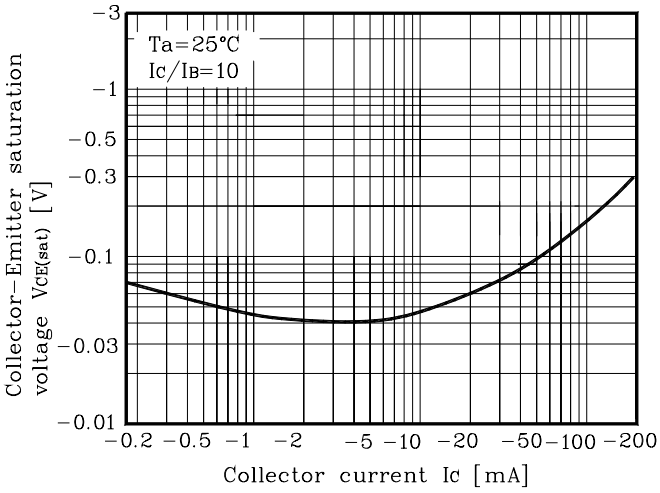


Fig. 4 $V_{CE(sat)}$-I_C



Tr2 : NPN

Fig. 1 I_C -V_{BE}

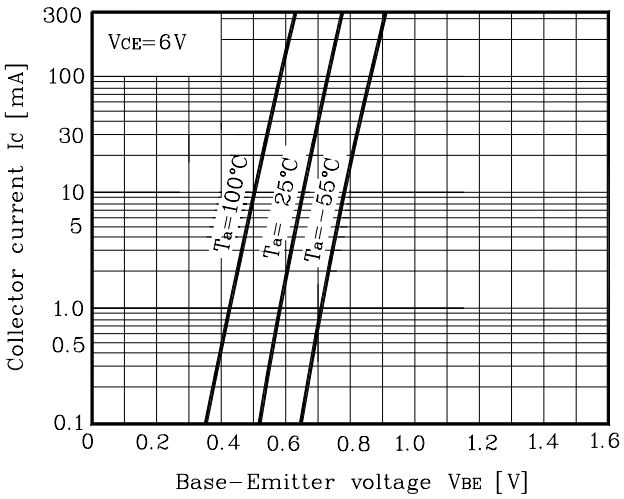
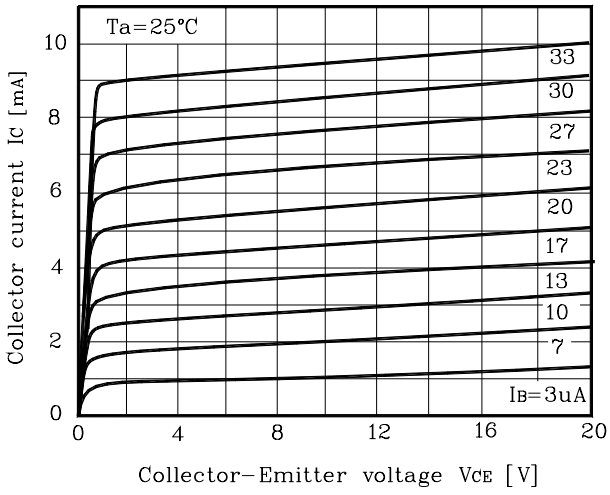


Fig. 2 I_C -V_{CE}



Electrical Characteristic Curves

Fig. 3 h_{FE}-I_C

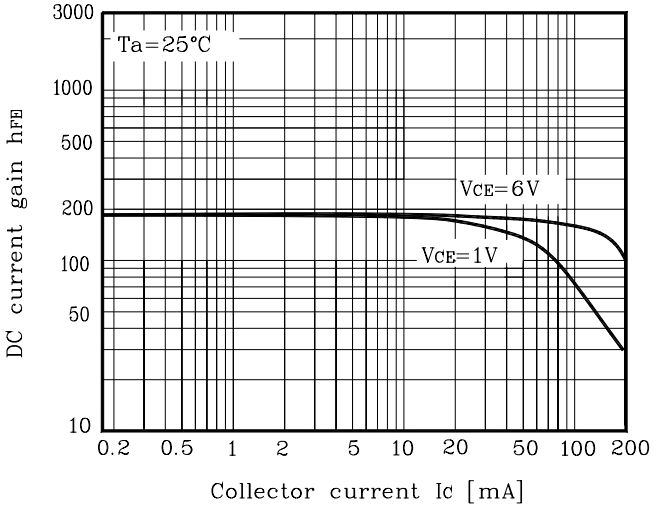
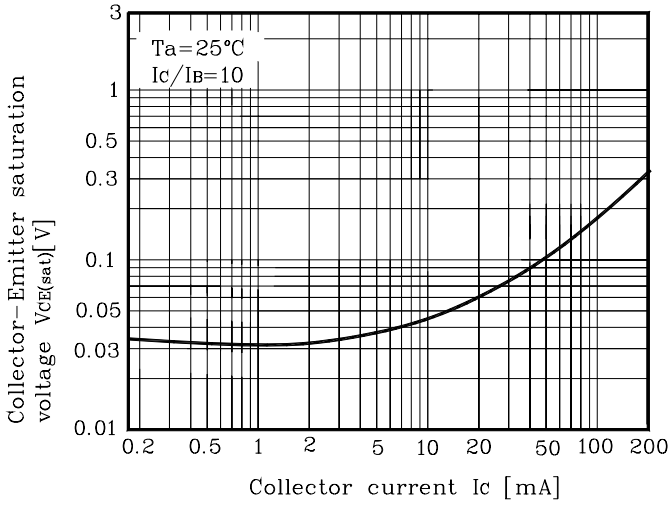


Fig. 4 $V_{CE(sat)}$-I_C



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