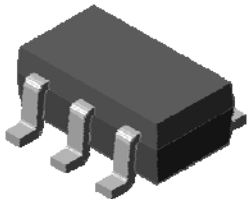
KODENSHI AUK

SUT101N

Epitaxial planar PNP/NPN silicon transistor

Descriptions

- Complex type bipolar transistor



Package : SOT-26

Features

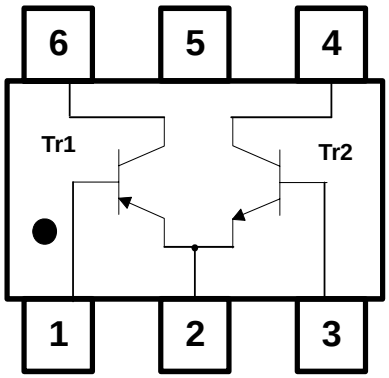
- Reduce quantity of parts and mounting cost
- High collector power dissipation : P_C=500mW(Max.)

Ordering Information

Type NO.	Marking	Package Code
SUT101N	VX◇□	SOT-26

◇: Hfe rank, □ : Year & Week Code

PIN Assignment & Description



[Pin Assignment]

Pin	Description
1	Base(Tr 1)
2	Emitter(Tr 1/Tr 2)
3	Base(Tr 2)
4	Collector(Tr 2)
5	-
6	Collector(Tr 1)

Absolute Maximum Ratings

(Ta=25°C)

Characteristic	Symbol	Rating		Unit
		Tr1	Tr2	
Collector-base voltage	V_{CBO}	-40	40	V
Collector-emitter voltage	V_{CEO}	-32	32	V
Emitter-base voltage	V_{EBO}	-5	5	V
Collector current	I_C	-1	1	A(DC)
	I_{CP}*	-2	2	A(Pulse)
Power dissipation	P_C**	0.5		W
Junction temperature	T_J	150		°C
Storage temperature range	T_{stg}	-55~150		°C

* : Single pulse, tp= 300 μs

** : Total rating(Each terminal mounted on a recommended solder land)

Electrical Characteristics [Tr1]

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	I_C=-50uA, I_E=0	-40	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	I_C=-1mA, I_B=0	-32	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	I_C=-50uA, I_C=0	-5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=-20V, I_E=0	-	-	-0.1	μA
Collector cut-off current	I_{EBO}	V_{CE}=-30V, I_C=0	-	-	-0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-4V, I_C=0	-	-	-0.1	μA
DC current gain	h_{FE}	V_{CE}=-3V, I_C=-0.1A	100	-	320	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	I_C=-500mA, I_B=-50mA	-	-0.2	-0.8	V
Transition frequency	f_T	V_{CE}=-5V,I_C=-50mA,f=30Mhz	-	150	-	MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz	-	20	30	pF

* h_{FE} rank / O: 100~ 200, Y: 160~ 320

Electrical Characteristics [Tr2]

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	I_C=50 μA, I_E=0	40	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	I_C=1 mA, I_B=0	32	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	I_E=50 μA, I_C=0	5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=20V, I_E=0	-	-	0.5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0	-	-	0.5	μA
DC current gain	h_{FE}*	V_{CE}=3V, I_C=0.1A	100	-	320	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	I_C=500 mA, I_B=50 mA	-	0.15	0.4	V
Transition frequency	f_T	V_{CE}=5V, I_C=50 mA	-	150	-	MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1 MHz	-	15	-	pF

* : h_{FE} rank / O : 100 ~ 200, Y : 160 ~ 320

Electrical Characteristic Curves

[Tr1]

Fig. 1 P_C - T_a

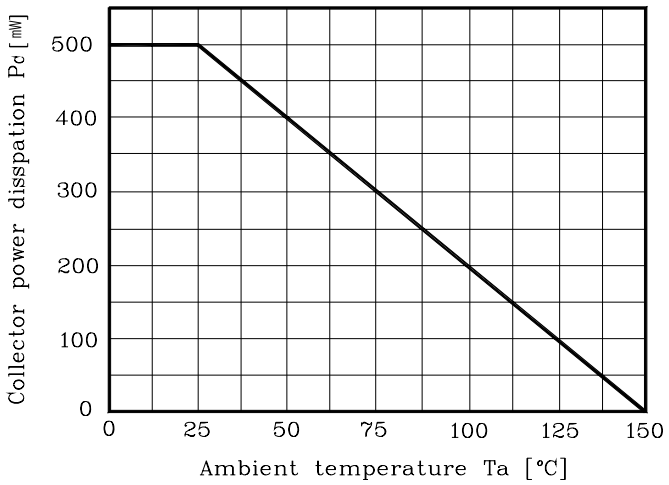


Fig. 2 I_C - V_{BE}

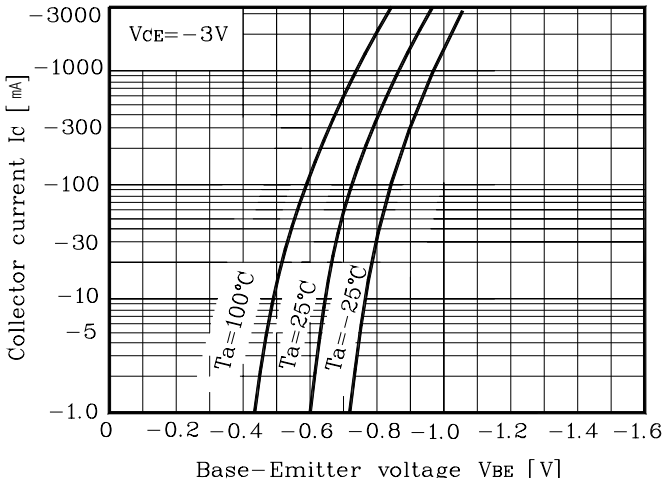


Fig. 3 I_C - V_{CE}

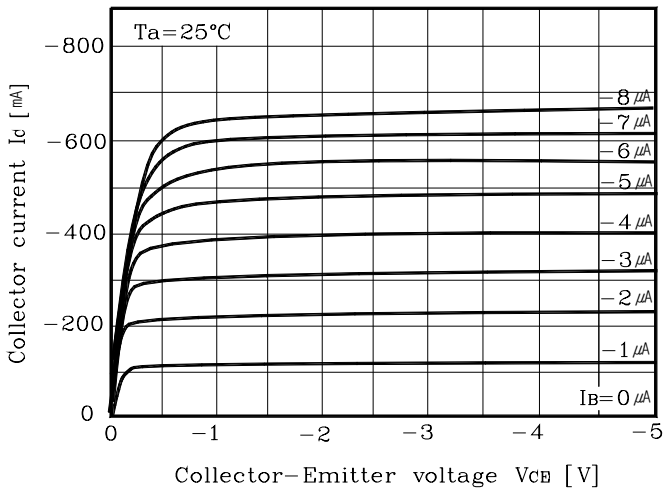
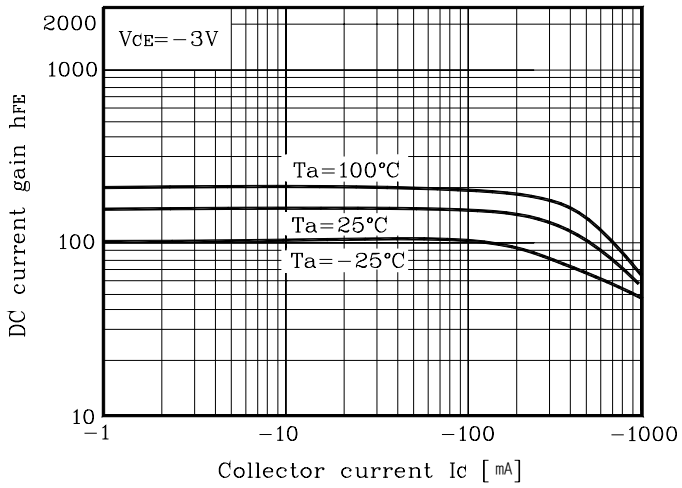


Fig. 4 h_{FE} - I_C



[Tr2]

Fig. 5 $V_{CE(sat)}$ - I_C

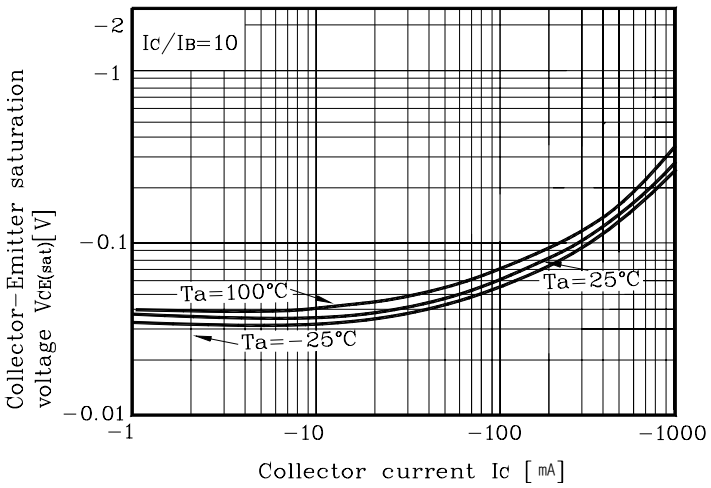


Fig. 6 I_C - V_{BE}

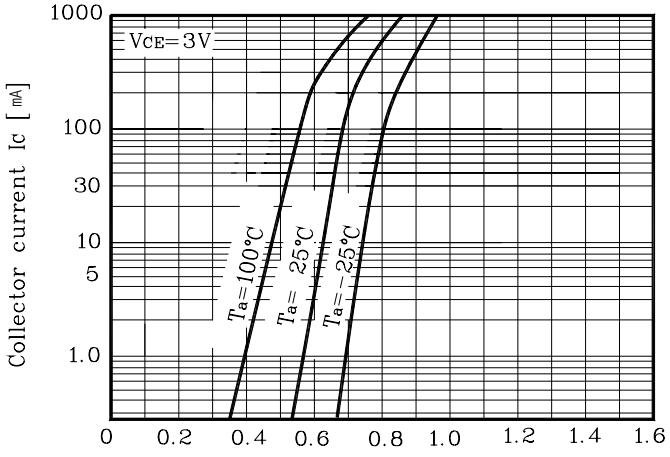


Fig. 7 I_C - V_{CE}

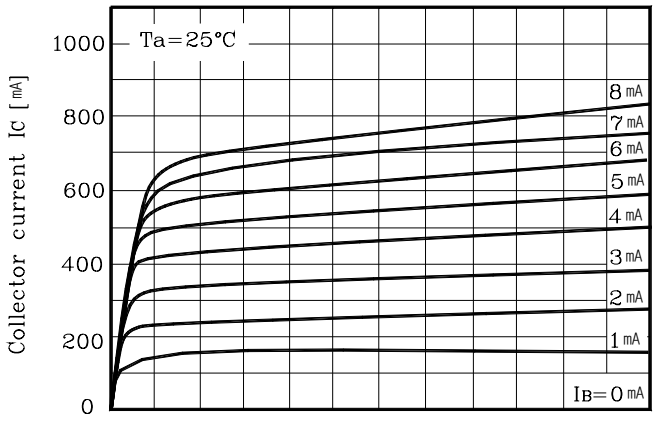


Fig. 8 $V_{CE(sat)}$ - I_C

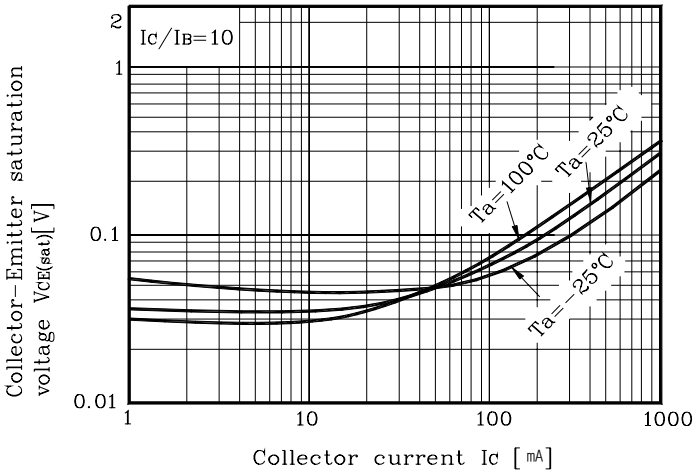
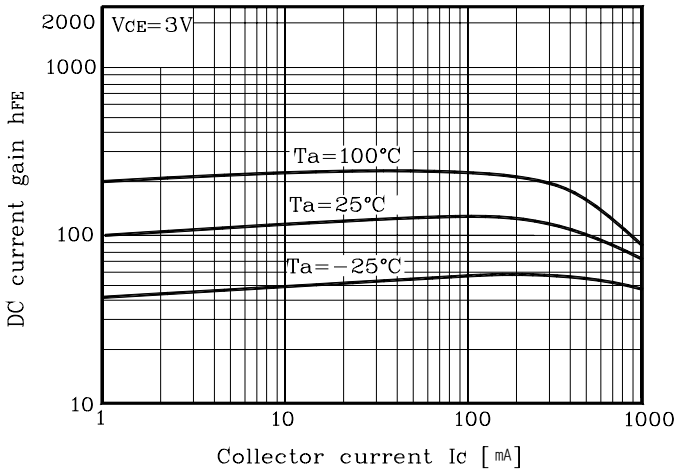
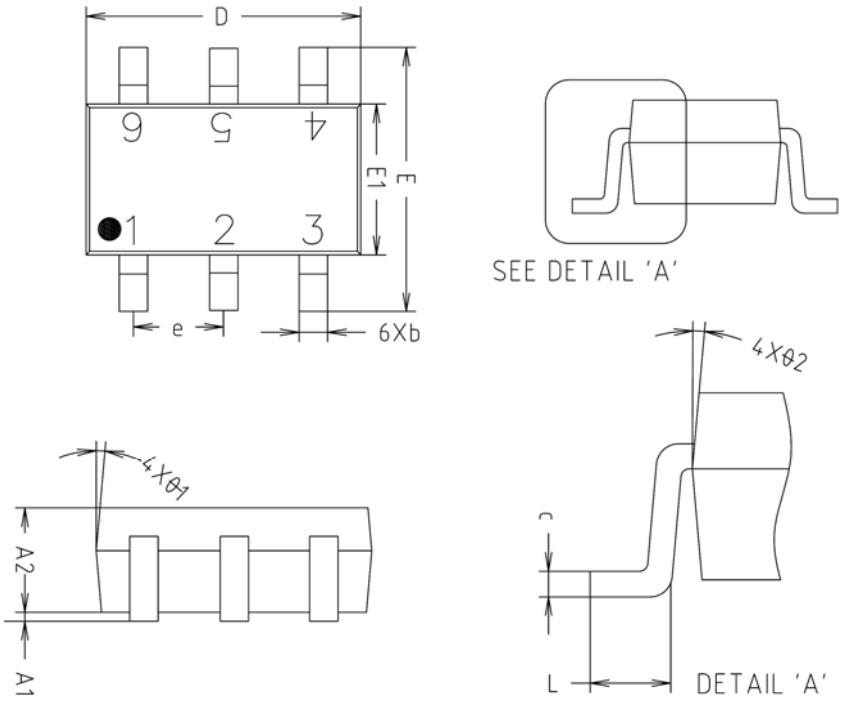


Fig. 9 h_{FE} - I_C

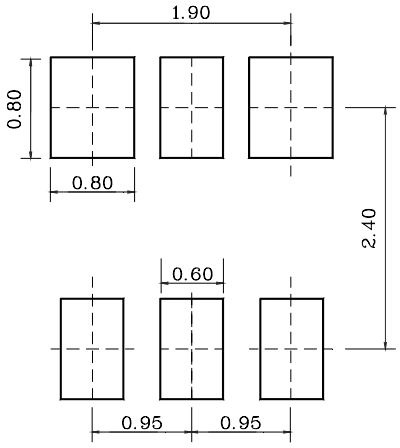


SOT-26 Outline Dimension(mm)



SYMBOL	MILLIMETERS(mm)			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A1	0.000	0.050	0.100	
A2	1.000	1.100	1.200	
b	-	0.400	0.450	
c	0.110	0.150	0.190	
D	2.800	2.900	3.000	
E	2.600	2.800	3.000	
E1	1.500	1.600	1.700	
e	0.930	0.950	0.970	
L	0.400	-	-	
Θ1	5° REF			
Θ2	5° REF			

※ Recommend PCB solder land [Unit: mm]



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