KODENSHI AUK

SUT093N

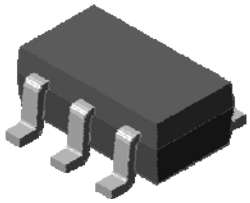
Epitaxial planar NPN silicon transistor

Descriptions

- Complex type bipolar transistor

Features

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



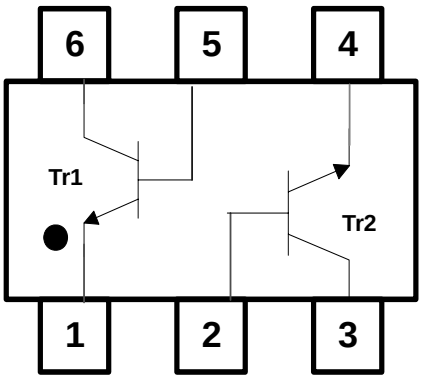
Package : SOT-26

Ordering Information

Type NO.	Marking	Package Code
SUT093N	93◇□	SOT-26

◇: Hfe rank, □ : Year & Week Code

PIN Assignment & Description



[Pin Assignment]

Pin	Description
1	Emitter 1
2	Base 2
3	Collector 2
4	Emitter 2
5	Base 1
6	Collector 1

Absolute maximum ratings(TR1, TR2)

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	100	V
Collector-Emitter voltage	V_{CEO}	90	V
Emitter-Base voltage	V_{EBO}	6	V
Collector current	I_C	0.3	A(DC)
	I_{CP}*	0.6	A(Pulse)
Collector power dissipation	P_C**	0.5	W
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~150	°C

* : Single pulse, tp= 300 μs

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

Electrical Characteristics(TR1, TR2)

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	I_C=100μA, I_E=0	100	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	I_C=1 mA, I_B=0	90	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	I_E=10 μA, I_C=0	6	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=100V, I_E=0	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0	-	-	0.1	μA
DC current gain	h_{FE} 1)	V_{CE}=5V, I_C=10 mA	80	-	250	-
Collector-Emitter saturation voltage	$V_{CE(sat)(1)}$ 2)	I_C=10 mA, I_B=1 mA	-	-	0.2	V
	$V_{CE(sat)(2)}$ 2)	I_C=50 mA, I_B=5 mA	-	-	0.5	V
Base-Emitter saturation voltage	$V_{BE(sat)(1)}$ 2)	I_C=10mA, I_B=1mA	-	-	1	V
	$V_{BE(sat)(2)}$ 2)	I_C=50mA, I_B=5mA	-	-	1	V
Transition frequency	f_T	V_{CE}=10V, I_C=10 mA	100	-	400	MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1 MHz	-	4	-	pF

* Note 1) hFE Rank / A : 80~150, B : 130~250

* Note 2) Pulse Tester : Pulse Width ≤300μs, Duty Cycle ≤2.0%

Electrical Characteristic Curves(TR1, TR2)

Fig. 1 P_C - T_a

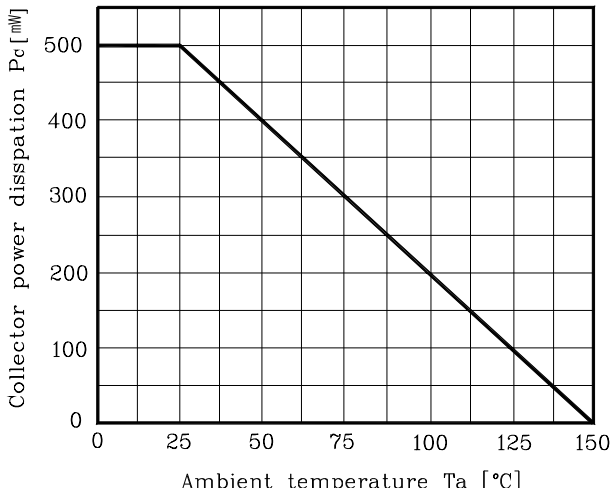


Fig. 2 I_C - V_{BE}

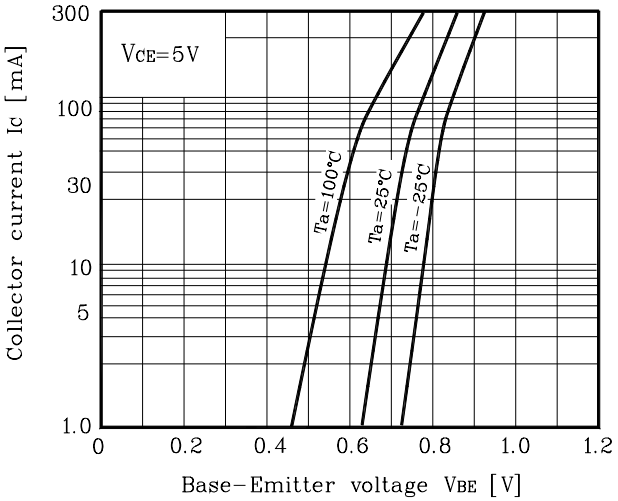


Fig. 3 h_{FE} - I_C

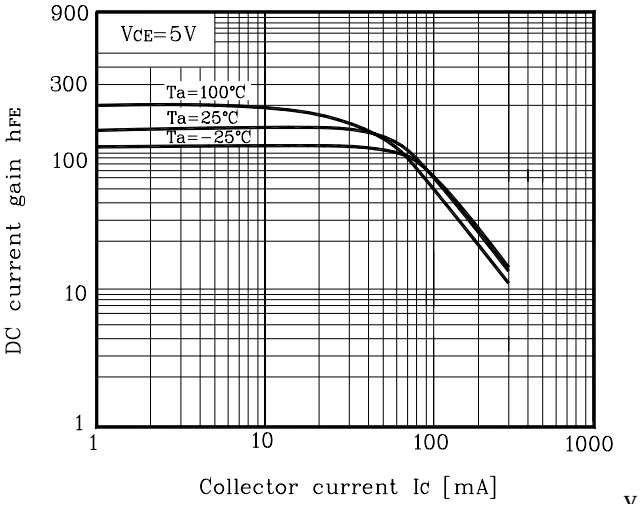


Fig. 4 $V_{CE(sat)}$, $V_{BE(sat)}$ - I_C

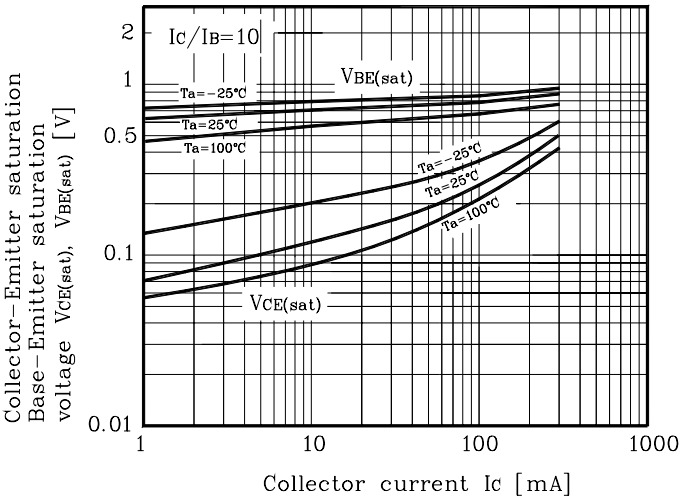


Fig. 5 f_T - I_C

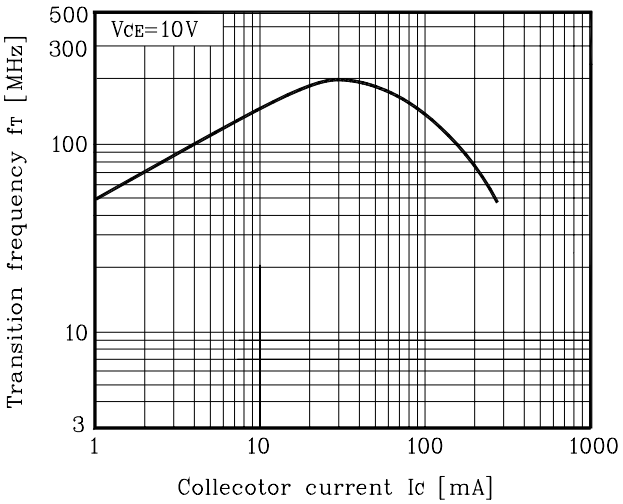
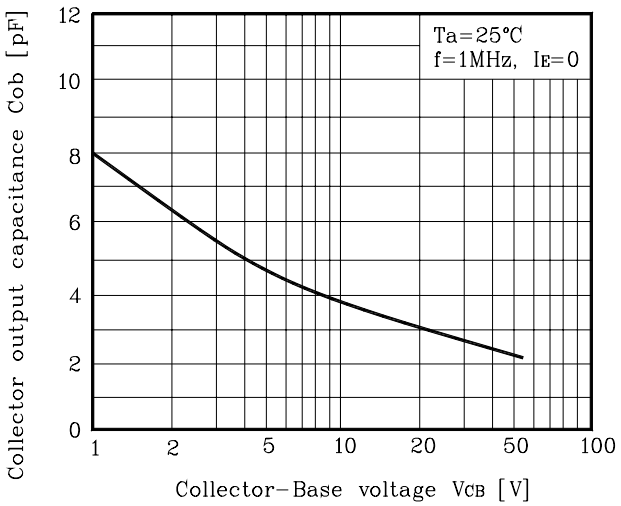
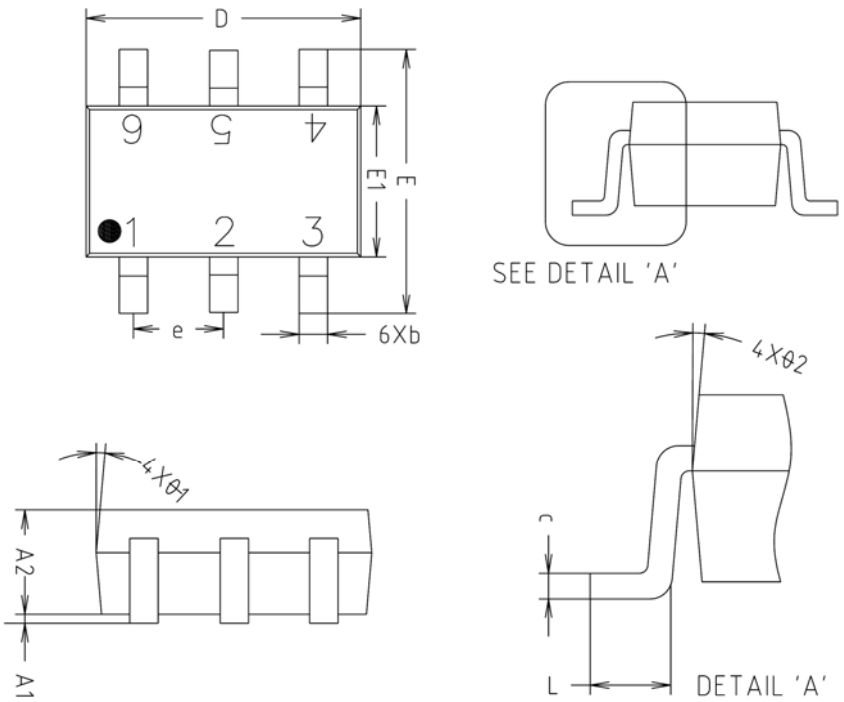


Fig. 6 C_{ob} - V_{CB}

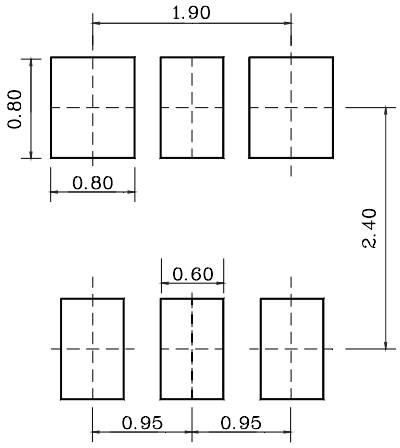


SOT-26 Outline Dimension(mm)



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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