XN04503 (XN4503)

Silicon NPN epitaxial planer transistor

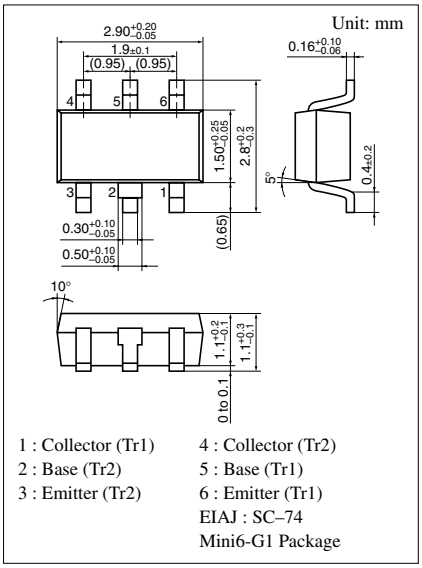
For amplification of low frequency output

Features

- Two elements incorporated into one package.
- Reduction of the mounting area and assembly cost by one half.

Basic Part Number of Element

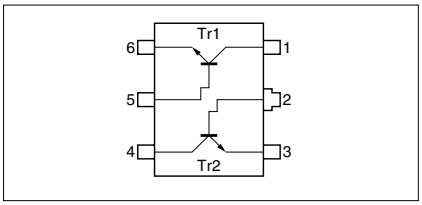
- 2SD0813(2SD813) × 2 elements



1 : Collector (Tr1)
2 : Base (Tr2)
3 : Emitter (Tr2)
4 : Collector (Tr2)
5 : Base (Tr1)
6 : Emitter (Tr1)
EIAJ : SC–74
Mini6-G1 Package

Marking Symbol: 5Y

Internal Connection



Absolute Maximum Ratings (Ta=25˚C)

Parameter		Symbol	Ratings	Unit
Rating of element	Collector to base voltage	V_{CBO}	25	V
	Collector to emitter voltage	V_{CEO}	20	V
	Emitter to base voltage	V_{EBO}	7	V
	Collector current	I_C	0.5	A
	Peak collector current	I_{CP}	1	A
Overall	Total power dissipation	P_T	300	mW
	Junction temperature	T_j	150	˚C
	Storage temperature	T_{stg}	–55 to +150	˚C

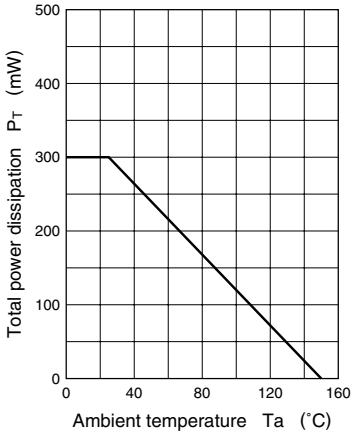
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V_{CBO}	I_C = 10μA, I_E = 0	25			V
Collector to emitter voltage	V_{CEO}	I_C = 1mA, I_B = 0	20			V
Emitter to base voltage	V_{EBO}	I_E = 10μA, I_C = 0	7			V
Collector cutoff current	I_{CBO}	V_{CB} = 25V, I_E = 0			0.1	μA
	I_{CEO}	V_{CE} = 20V, I_B = 0			1	μA
Forward current transfer ratio	h_{FE1}	V_{CE} = 2V, I_C = 500mA*	65		350	
	h_{FE2}	V_{CE} = 2V, I_C = 1A*	50			
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 20mA*		0.2	0.4	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 500mA, I_B = 50mA*			1.2	V
Transition frequency	f_T	V_{CB} = 10V, I_E = –50mA, f = 200MHz		150		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz		6		pF

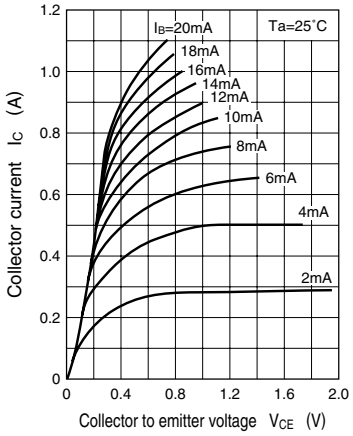
* Pulse measurement

Note) The Part number in the Parenthesis shows conventional part number.

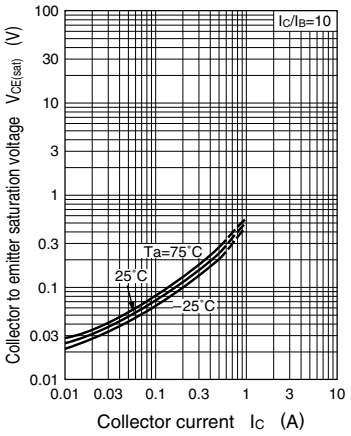
P_T — Ta



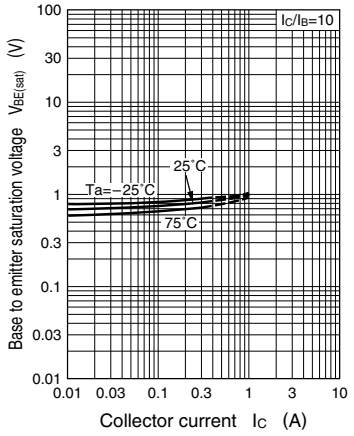
I_C — V_{CE}



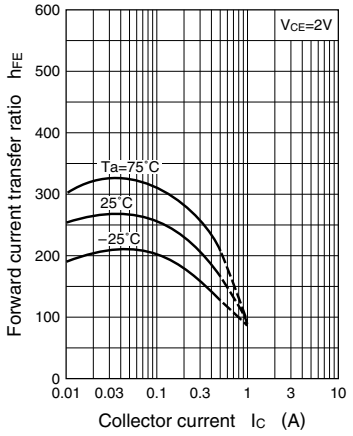
$V_{CE(sat)}$ — I_C



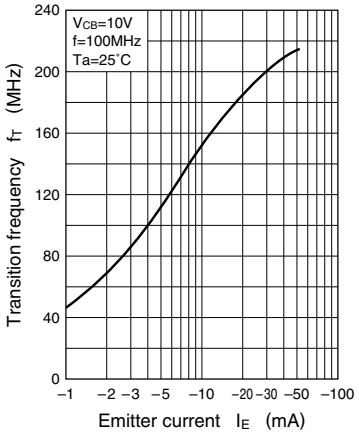
$V_{BE(sat)}$ — I_C



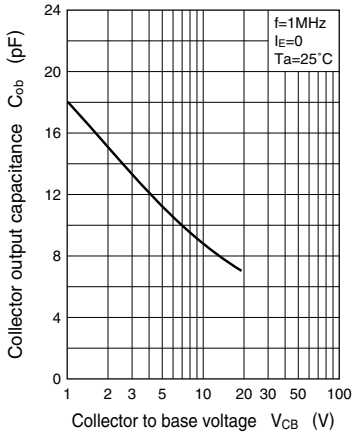
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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