XN1504

Silicon NPN epitaxial planer transistor

For amplification of low frequency output

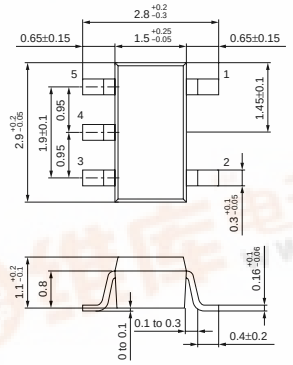
Features

- Two elements incorporated into one package.
  (Emitter-coupled transistors)
- Reduction of the mounting area and assembly cost by one half.

Basic Part Number of Element

- 2SD1938 × 2 elements

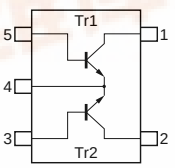
Unit: mm



1 : Collector (Tr1)
2 : Collector (Tr2)
3 : Base (Tr2)
4 : Emitter
5 : Base (Tr1)
EIAJ : SC–74A
Mini Type Pakage (5–pin)

Marking Symbol: 5S

Internal Connection



Absolute Maximum Ratings (Ta=25˚C)

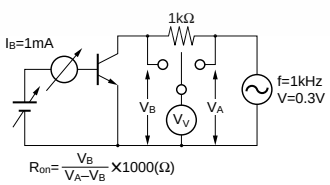
Parameter		Symbol	Ratings	Unit
Rating of element	Collector to base voltage	V_{CBO}	50	V
	Collector to emitter voltage	V_{CEO}	20	V
	Emitter to base voltage	V_{EBO}	25	V
	Collector current	I_C	300	mA
	Peak collector current	I_{CP}	500	mA
Overall	Total power dissipation	P_T	300	mW
	Junction temperature	T_j	150	˚C
	Storage temperature	T_{stg}	–55 to +150	˚C

Electrical Characteristics (Ta=25˚C)

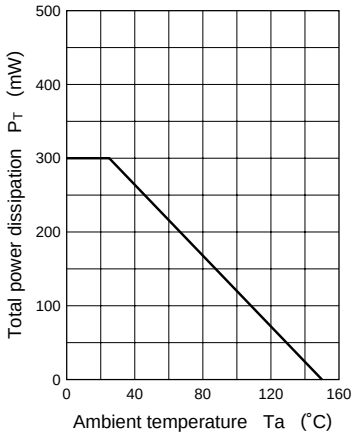
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to emitter voltage	V_{CEO}	I_C = 1mA, I_B = 0	20			V
Collector cutoff current	I_{CBO}	V_{CB} = 50V, I_E = 0			0.1	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 25V, I_C = 0			0.1	μA
Forward current transfer ratio	h_{FE}	V_{CE} = 2V, I_C = 4mA	500		2500	
Forward current transfer h_{FE} ratio	h_{FE} (small/large)*1	V_{CE} = 2V, I_C = 4mA	0.5	0.99		
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 30mA, I_B = 3mA			0.1	V
Base to emitter voltage	V_{BE}	V_{CE} = 2V, I_C = 4mA		0.6		V
Transition frequency	f_T	V_{CB} = 6V, I_E = –4mA, f = 200MHz		80		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz			7	pF
ON Resistance	R_{on}*2			1.0		Ω

*1 Ratio between 2 elements

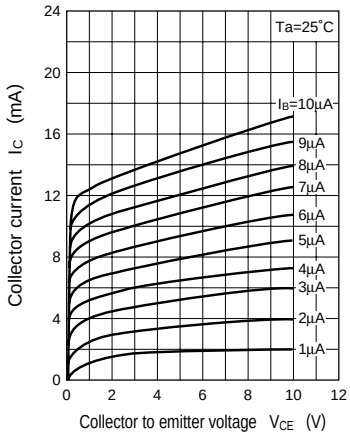
*2 R_{on} test circuit



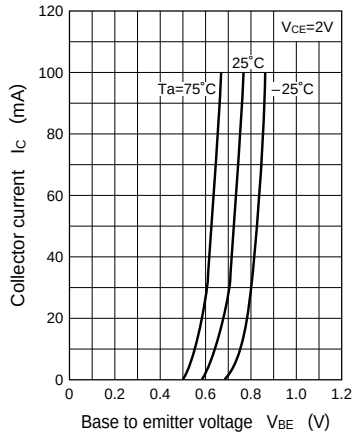
P_T — Ta



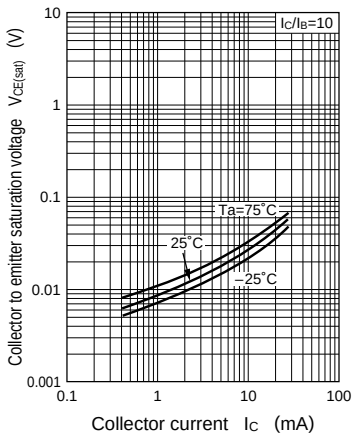
I_C — V_{CE}



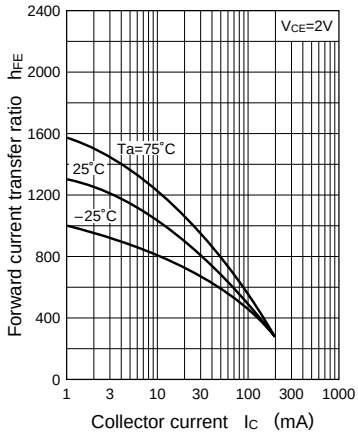
I_C — V_{BE}



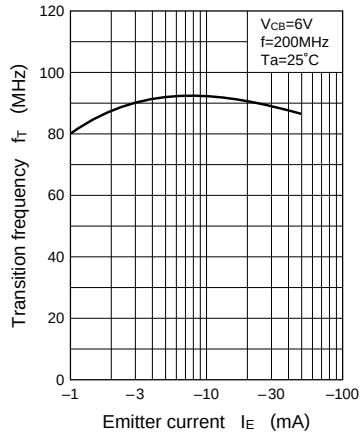
$V_{CE(sat)}$ — I_C



h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}