XP1507

Silicon NPN epitaxial planer transistor

High breakdown voltage and for low noise amplification

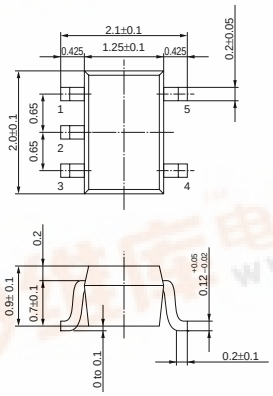
Features

- 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

- 2SD814 × 2 elements

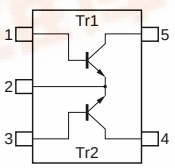
Unit: mm



1 : Base (Tr1)
2 : Emitter
3 : Base (Tr2)
4 : Collector (Tr2)
5 : Collector (Tr1)
EIAJ : SC–88A
S–Mini Type Package (5–pin)

Marking Symbol: 4O

Internal Connection



Absolute Maximum Ratings (Ta=25˚C)

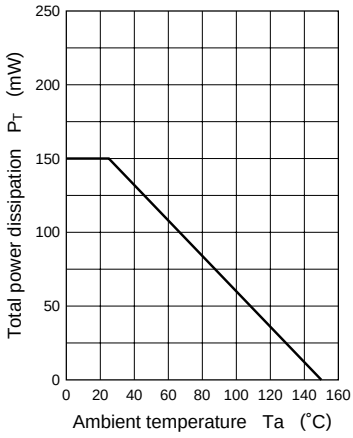
Parameter		Symbol	Ratings	Unit
Rating of element	Collector to base voltage	V_{CBO}	150	V
	Collector to emitter voltage	V_{CEO}	150	V
	Emitter to base voltage	V_{EBO}	5	V
	Collector current	I_C	50	mA
	Peak collector current	I_{CP}	100	mA
Overall	Total power dissipation	P_T	150	mW
	Junction temperature	T_j	150	˚C
	Storage temperature	T_{stg}	–55 to +150	˚C

Electrical Characteristics (Ta=25˚C)

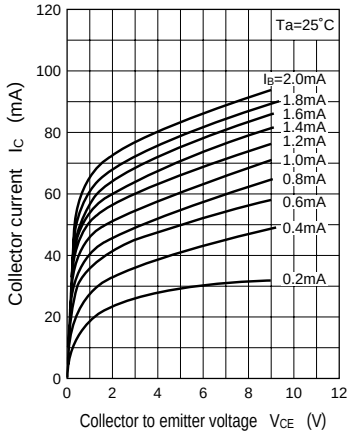
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to emitter voltage	V_{CEO}	I_C = 100μA, I_B = 0	150			V
Emitter to base voltage	V_{EBO}	I_E = 10μA, I_C = 0	5			V
Collector cutoff current	I_{CBO}	V_{CB} = 100V, I_E = 0			1	μA
Forward current transfer ratio	h_{FE}	V_{CE} = 5V, I_C = 10mA	90		450	
Forward current transfer h_{FE} ratio	h_{FE} (small/large)*1	V_{CE} = 5V, I_C = 10mA	0.5	0.99		
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 30mA, I_B = 3mA			1	V
Transition frequency	f_T	V_{CB} = 10V, I_E = –10mA, f = 200MHz		150		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz		2.3		pF

*1 Ratio between 2 elements

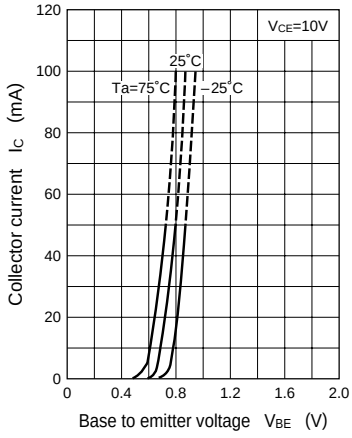
P_T — Ta



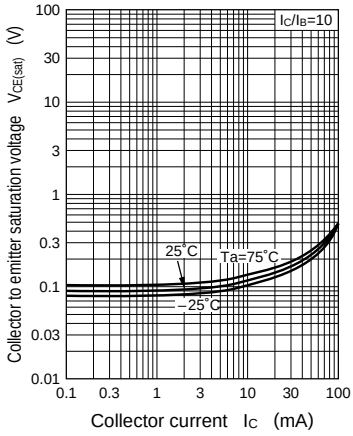
I_C — V_{CE}



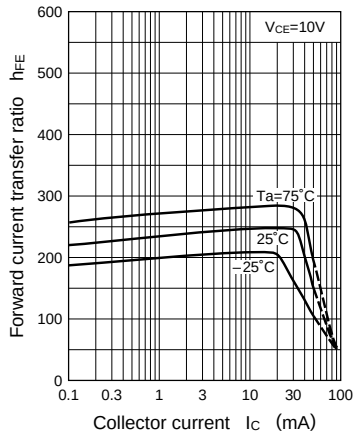
I_C — V_{BE}



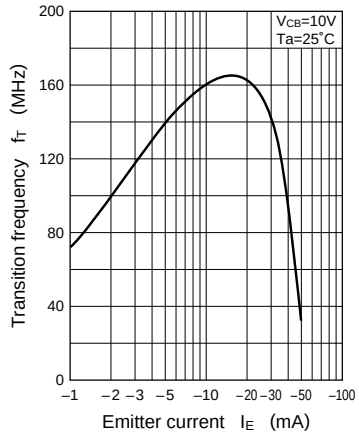
$V_{CE(sat)}$ — I_C



h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}