

XP01507 (XP1507)

Silicon NPN epitaxial planer transistor

High breakdown voltage and for low noise amplification

■ Features

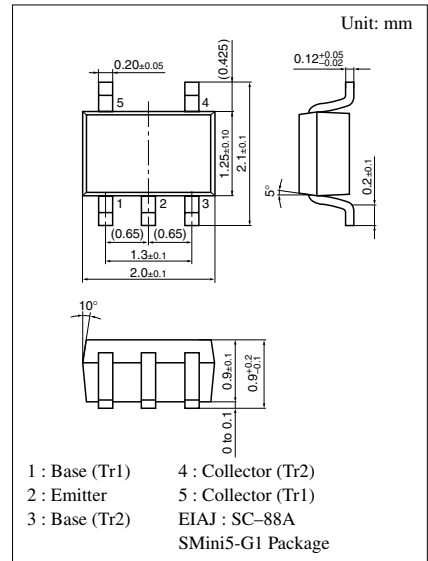
- Two elements incorporated into one package.
(Emitter-coupled transistors)
- Reduction of the mounting area and assembly cost by one half.

■ Basic Part Number of Element

- 2SD0814(2SD814) × 2 elements

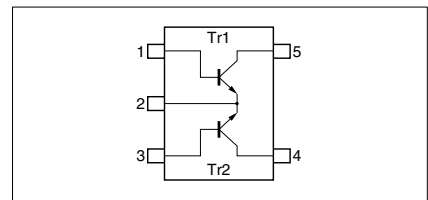
■ Absolute Maximum Ratings (Ta=25°C)

	Parameter	Symbol	Rated	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



Marking Symbol: 40

Internal Connection



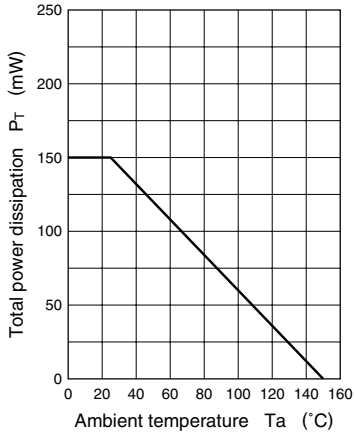
■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to emitter voltage	V_{CEO}	$I_C = 100\mu A, I_B = 0$	150			V
Emitter to base voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	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	$h_{FE}(\text{small/large})^{*1}$	$V_{CE} = 5V, I_C = 10mA$	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

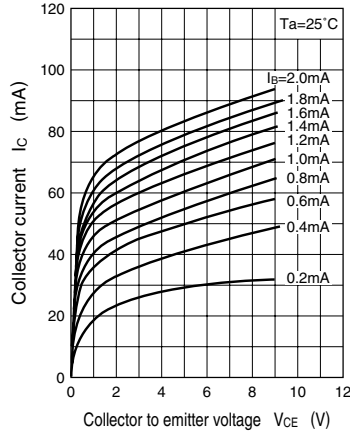
*1 Ratio between 2 elements

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

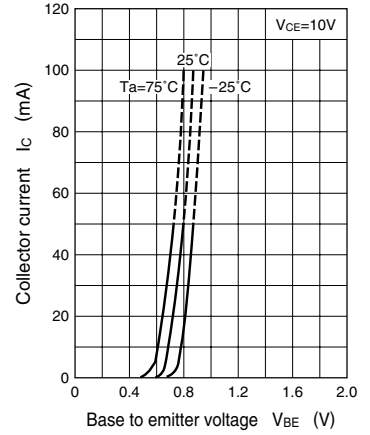
$P_T - T_a$



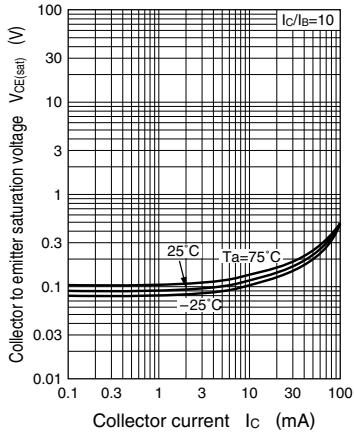
$I_C - V_{CE}$



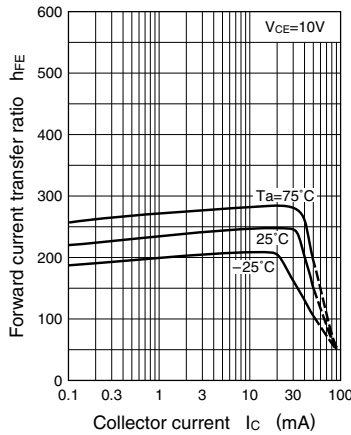
$I_C - V_{BE}$



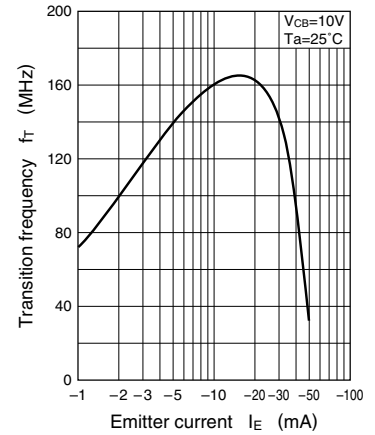
$V_{CE(sat)} - I_C$



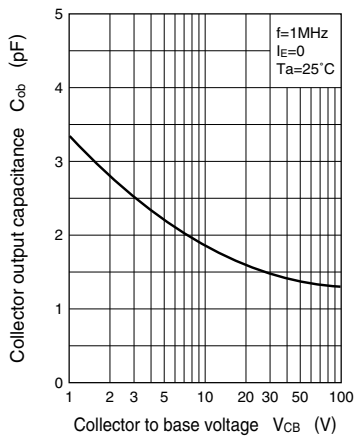
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



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