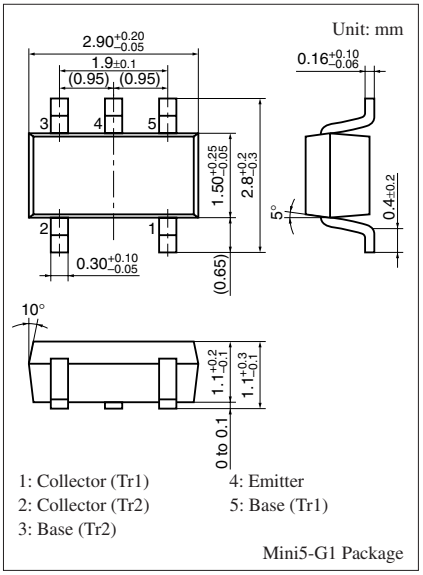
XN01457

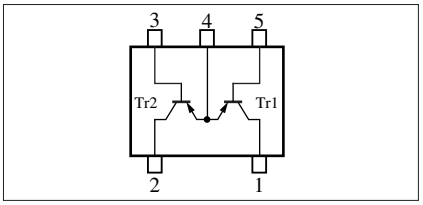
Silicon PNP epitaxial planar transistor

For general amplification



Marking Symbol: 4Y

Internal Connection



■ 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

- 2SB1693 × 2 elements

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Rating of element	Collector to base voltage	V_{CBO}	–40	V
	Collector to emitter voltage	V_{CEO}	–20	
	Emitter to base voltage	V_{EBO}	–15	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

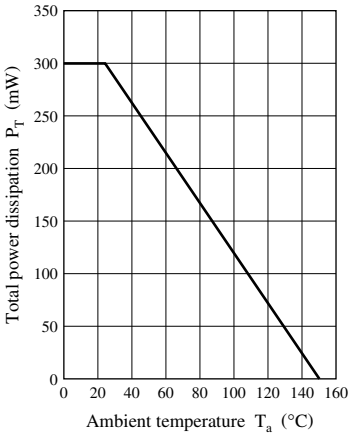
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector to base voltage	V_{CBO}	$I_C = -10$ µA, $I_E = 0$	–40			V
Collector to emittter voltage	V_{CEO}	$I_C = -2$ mA, $I_B = 0$	–20			
Emitter to base voltage	V_{EBO}	$I_E = -10$ µA, $I_C = 0$	–15			V
Forward current transfer ratio *1	h_{FE1}	$V_{CE} = -2$ V, $I_C = -100$ mA	160		560	—
	h_{FE2}	$V_{CE} = -2$ V, $I_C = -500$ mA	100			
h_{FE} Ratio *1, 2	$h_{FE(Small/Large)}$	$V_{CE} = -2$ V, $I_C = -100$ mA	0.5	0.99		—
Collector to emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = -100$ mA, $I_B = -10$ mA		–60	–300	mV
		$I_C = -0.5$ A, $I_B = -25$ mA		–210	–500	
Gain bandwidth product	f_T	$V_{CB} = -5$ V, $I_E = 50$ mA, f = 200 MHz		170		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz		16		pF

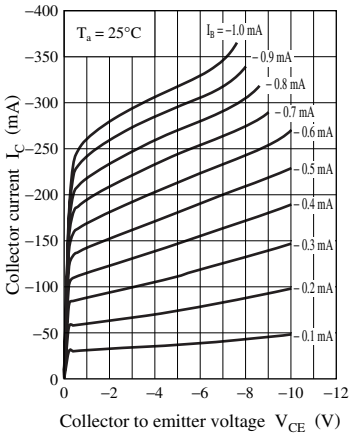
Note) ∗1: Pulse measurement

∗2: Ratio between one and another device

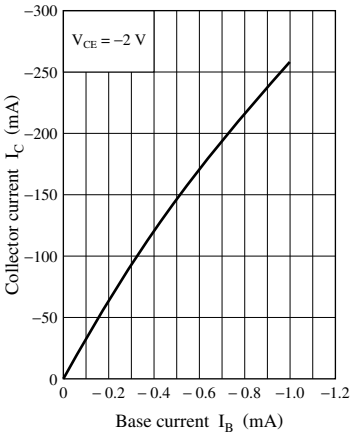
P_T — T_a



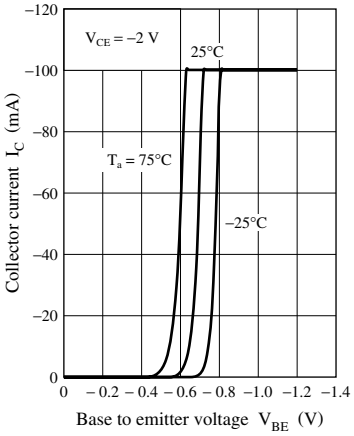
I_C — V_{CE}



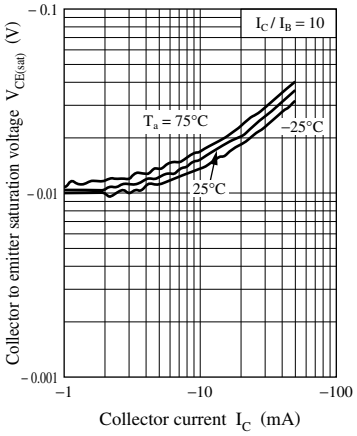
I_C — I_B



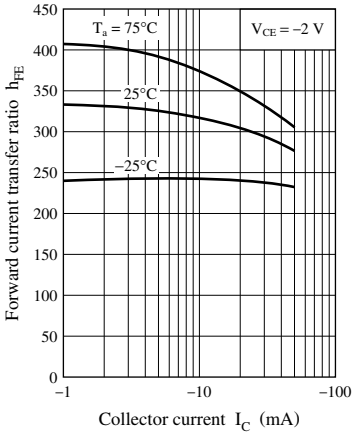
I_C — V_{BE}



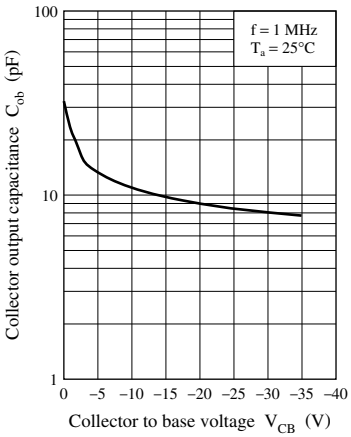
$V_{CE(sat)}$ — I_C



h_{FE} — I_C



C_{ob} — V_{CB}



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