XN02501 (XN2501)

Silicon NPN epitaxial planar type

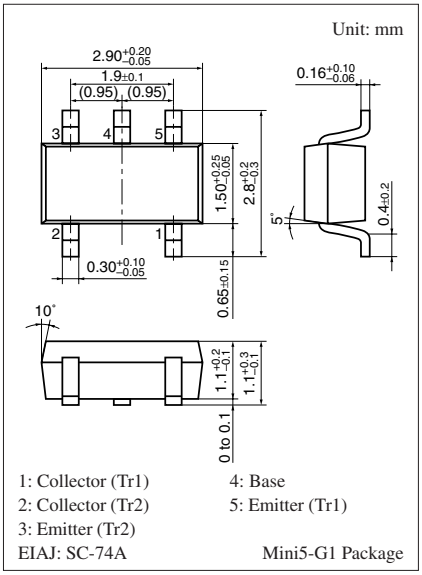
For general amplification

■ Features

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

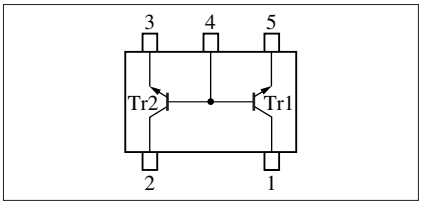
■ Basic Part Number

- 2SD0601A (2SD601A) × 2



Marking Symbol: 5W

Internal Connection



■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	60	V
Collector-emitter voltage (Base open)	V_{CEO}	50	V
Emitter-base voltage (Collector open)	V_{EBO}	7	V
Collector current	I_C	100	mA
Peak collector current	I_{CP}	200	mA
Total power dissipation	P_T	300	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

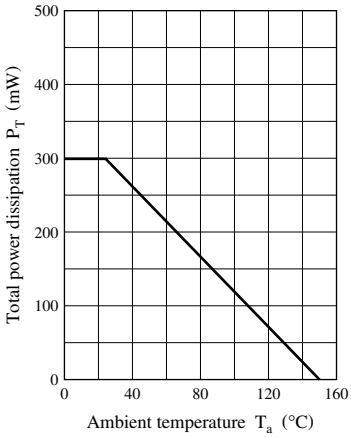
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	I_C = 10 µA, I_E = 0	60			V
Collector-emitter voltage (Base open)	V_{CEO}	I_C = 2 mA, I_B = 0	50			V
Emitter-base voltage (Collector open)	V_{EBO}	I_E = 10 µA, I_C = 0	7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = 20 V, I_E = 0			0.1	µA
Collector-emitter cutoff current (Base open)	I_{CEO}	V_{CE} = 10 V, I_B = 0			100	µA
Forward current transfer ratio	h_{FE}	V_{CE} = 10 V, I_C = 2 mA	160		460	—
h_{FE} ratio *	$h_{FE(Small/Large)}$	V_{CE} = 10 V, I_C = 2 mA	0.50	0.99		—
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 100 mA, I_B = 10 mA		0.1	0.3	V
Transition frequency	f_T	V_{CB} = 10 V, I_E = –2 mA, f = 200 MHz		150		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz		3.5		pF

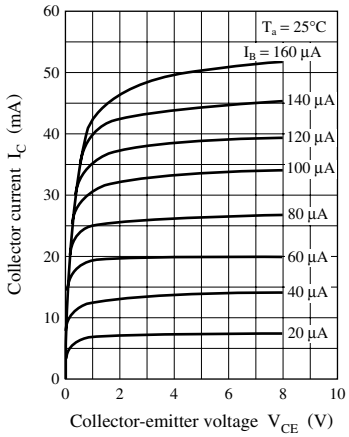
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Ratio between 2 elements

Note) The part number in the parenthesis shows conventional part number.

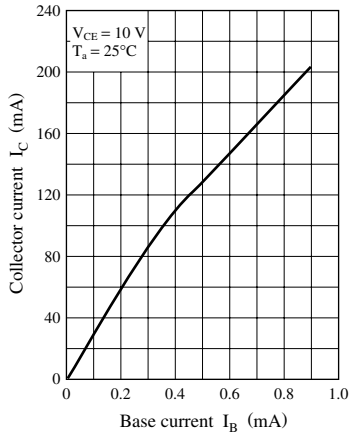
P_T — T_a



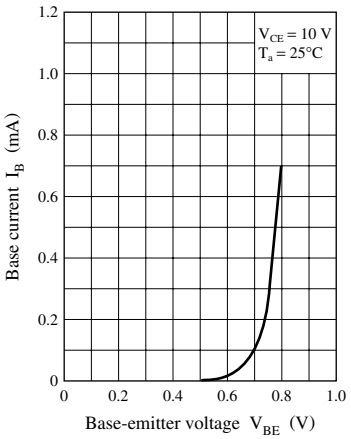
I_C — V_{CE}



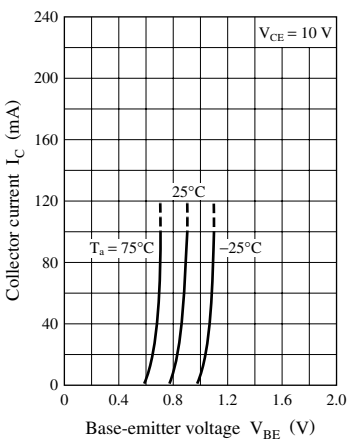
I_C — I_B



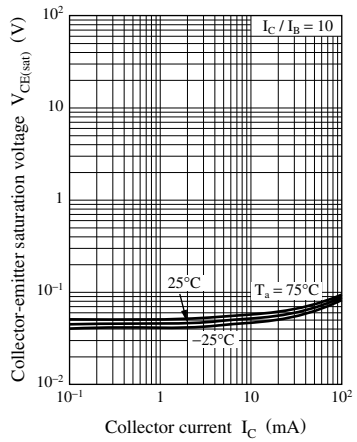
I_B — V_{BE}



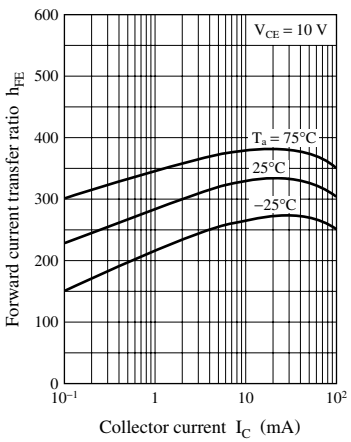
I_C — V_{BE}



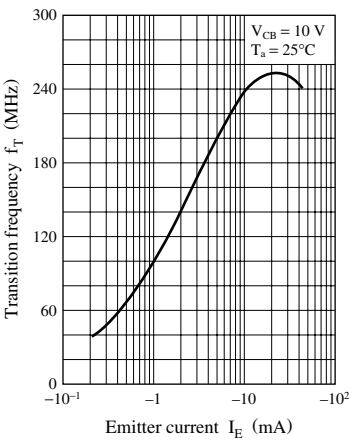
$V_{CE(sat)}$ — I_C



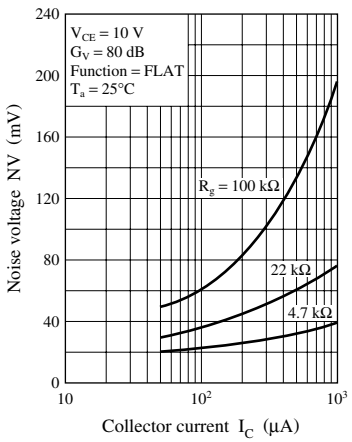
h_{FE} — I_C



f_T — I_E



NV — I_C



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