

# 2SD0601A (2SD601A)

## Silicon NPN epitaxial planar type

For general amplification

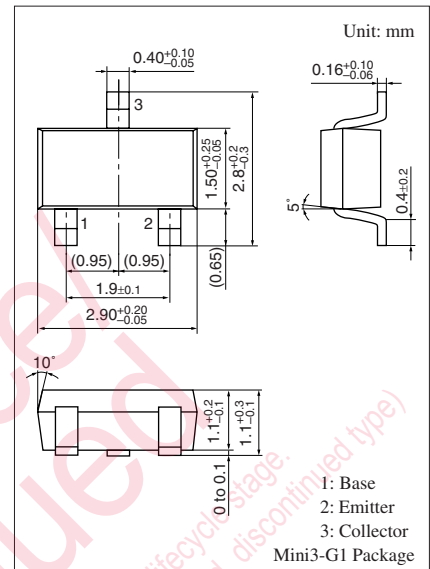
Complementary to 2SB0709A (2SB709A)

### ■ Features

- High forward current transfer ratio  $h_{FE}$
- Low collector to emitter saturation voltage  $V_{CE(sat)}$
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

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
Collector power dissipation	$P_C$	200	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



Marking Symbol: Z

### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 10 \mu\text{A}$ , $I_E = 0$	60			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 2 \text{ mA}$ , $I_B = 0$	50			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}$ , $I_C = 0$	7			V
Collector-base cut-off current (Emitter open)	$I_{CBO}$	$V_{CB} = 20 \text{ V}$ , $I_E = 0$			0.1	$\mu\text{A}$
	$I_{CEO}$	$V_{CE} = 10 \text{ V}$ , $I_B = 0$			100	$\mu\text{A}$
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = 10 \text{ V}$ , $I_C = 2 \text{ mA}$	160		460	—
	$h_{FE2}$	$V_{CE} = 2 \text{ V}$ , $I_C = 100 \text{ mA}$	90			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100 \text{ mA}$ , $I_B = 10 \text{ mA}$		0.1	0.3	V
Transition frequency	$f_T$	$V_{CB} = 10 \text{ V}$ , $I_E = -2 \text{ mA}$ , $f = 200 \text{ MHz}$		150		MHz
Noise voltage	NV	$V_{CE} = 10 \text{ V}$ , $I_C = 1 \text{ mA}$ , $G_V = 80 \text{ dB}$ $R_g = 100 \text{ k}\Omega$ , Function = FLAT		110		mV
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$			3.5	pF

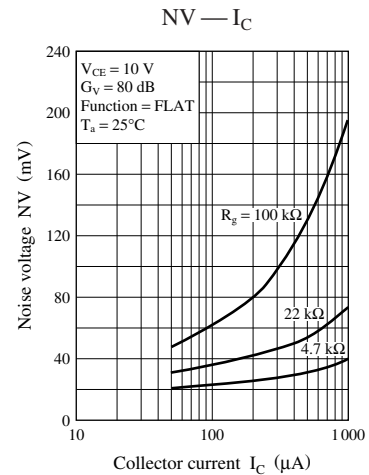
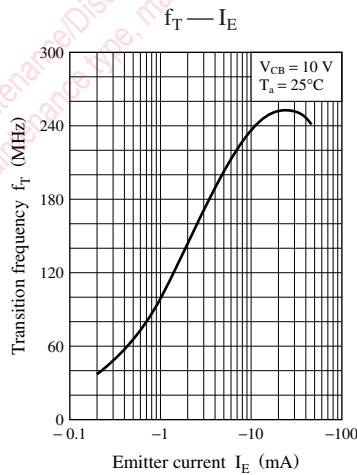
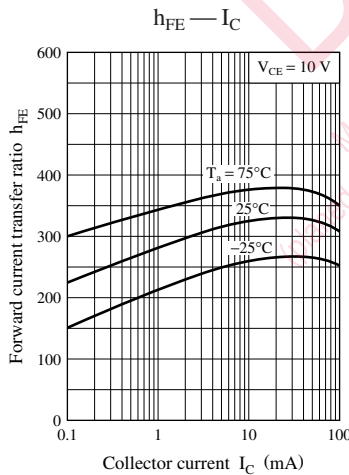
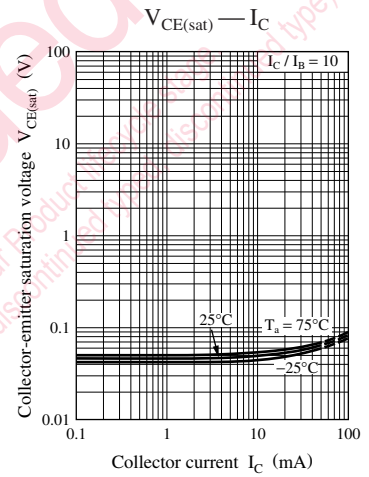
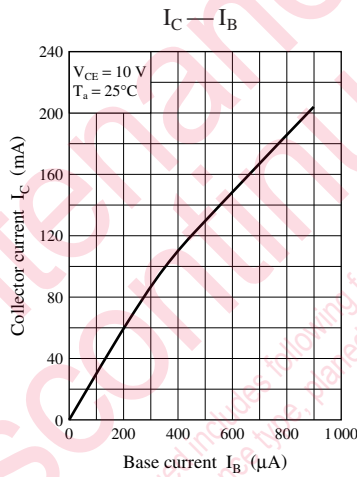
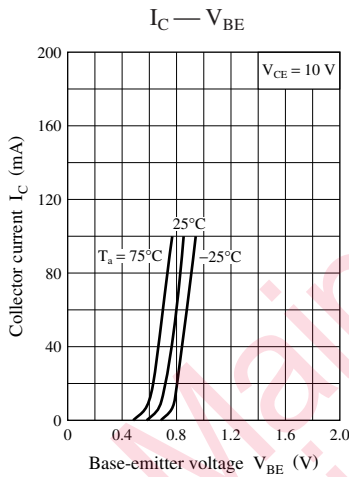
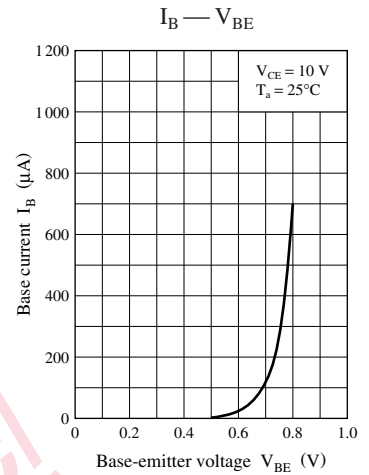
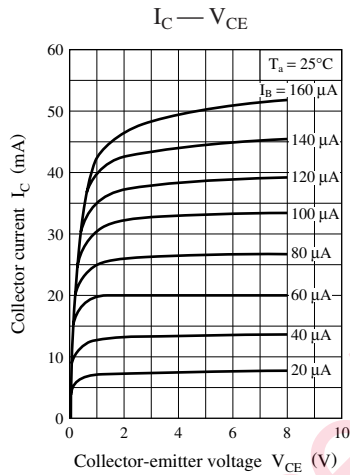
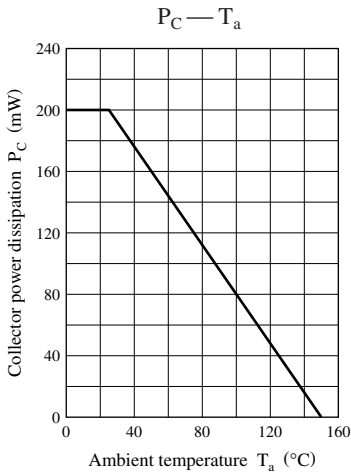
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

Rank	Q	R	S	No-rank
$h_{FE1}$	160 to 260	210 to 340	290 to 460	160 to 460
Marking symbol	ZQ	ZR	ZS	Z

Product of no-rank is not classified and have no marking symbol for rank.

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



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