

2SB1070, 2SB1070A

Silicon PNP epitaxial planar type

For low-voltage switching

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- High-speed switching
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SB1070	V_{CBO}	V
	2SB1070A	–50	
Collector-emitter voltage (Base open)	2SB1070	V_{CEO}	V
	2SB1070A	–40	
Emitter-base voltage (Collector open)	V_{EBO}	–5	V
Collector current	I_C	–4	A
Peak collector current	I_{CP}	–8	A
Collector power dissipation	P_C	25	W
		$T_a = 25^\circ\text{C}$	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	–55 to +150	$^\circ\text{C}$

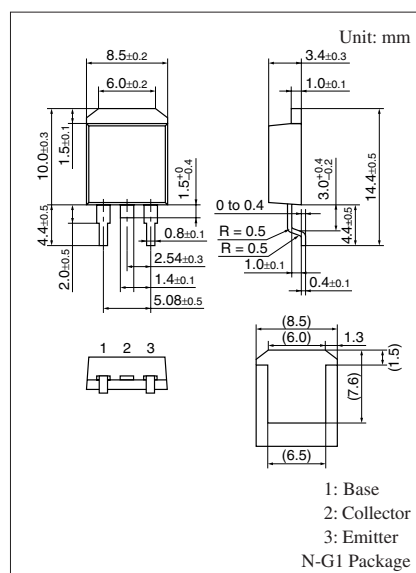
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SB1070	$I_C = -10\text{ mA}, I_B = 0$	–20			V
	2SB1070A		–40			
Collector-base cutoff current (Emitter open)	2SB1070	$V_{CB} = -40\text{ V}, I_E = 0$			–50	μA
	2SB1070A	$V_{CB} = -50\text{ V}, I_E = 0$			–50	
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$			–50	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = -2\text{ V}, I_C = -0.1\text{ A}$	45			—
	h_{FE2}^*	$V_{CE} = -2\text{ V}, I_C = -1\text{ A}$	90		260	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -2\text{ A}, I_B = -0.1\text{ A}$			–1.5	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2\text{ A}, I_B = -0.1\text{ A}$			–0.5	V
Transition frequency	f_T	$V_{CE} = -5\text{ V}, I_C = -0.5\text{ A}, f = 10\text{ MHz}$		150		MHz
Turn-on time	t_{on}	$I_C = -2\text{ A}$		0.3		μs
Storage time	t_{stg}	$I_{B1} = -0.2\text{ A}, I_{B2} = 0.2\text{ A}$		0.4		μs
Fall time	t_f	$V_{CC} = -20\text{ V}$		0.1		μs

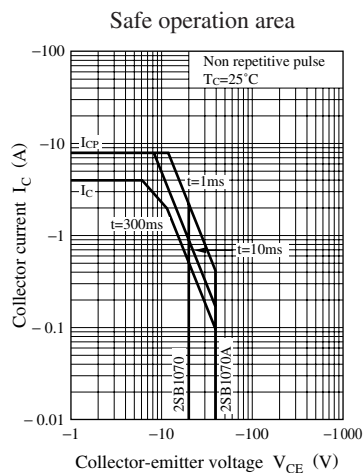
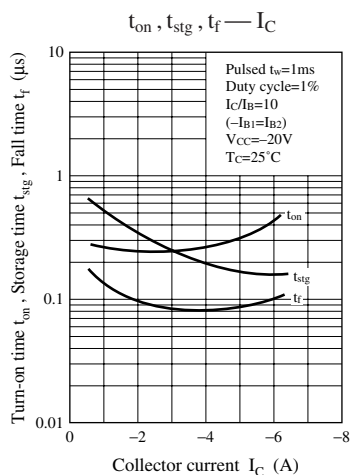
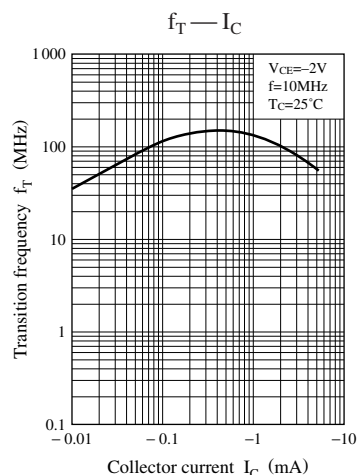
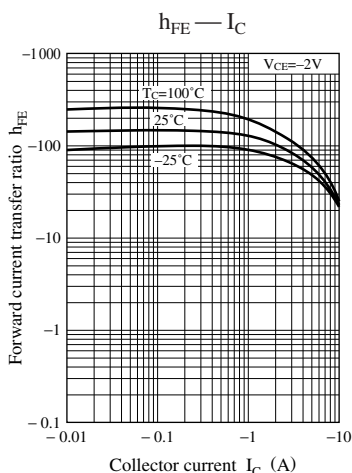
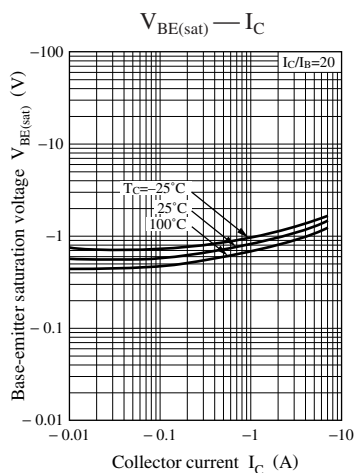
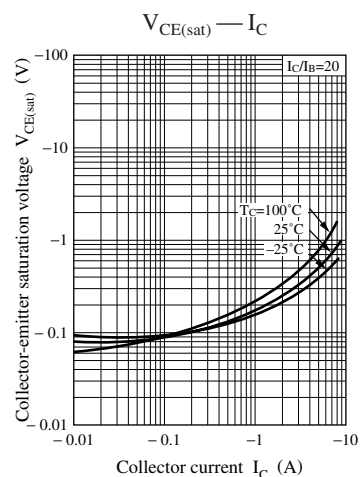
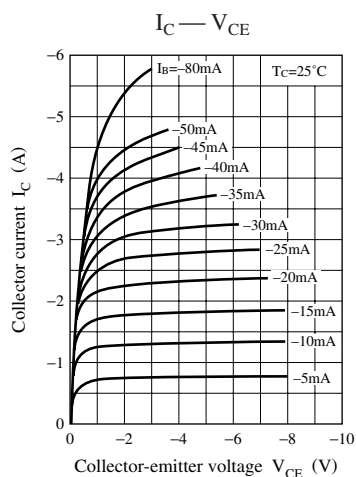
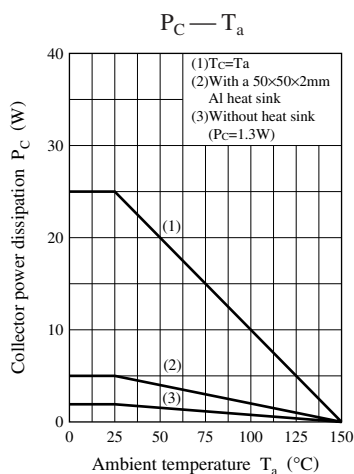
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

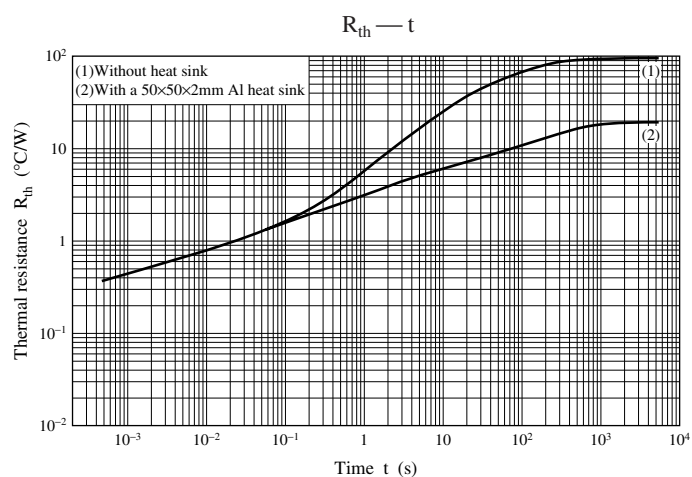
2. *: Rank classification

Rank	Q	P
h_{FE2}	90 to 180	130 to 260



Note) Self-supported type package is also prepared.





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