# 2SB1070, 2SB1070A

# Silicon PNP epitaxial planar type

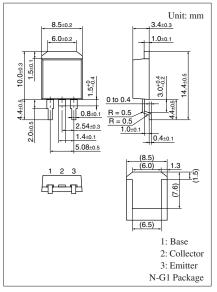
For low-voltage switching

### Features

- $\bullet$  Low collector-emitter saturation voltage  $V_{\mbox{\scriptsize CE(sat)}}$
- 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 Hatings $T_{\rm C} = 25$ C						
Parameter	Symbol	Rating	Unit			
Collector-base voltage	2SB1070	V <sub>CBO</sub>	-40	V		
(Emitter open)	2SB1070A		-50			
Collector-emitter voltage	2SB1070	V <sub>CEO</sub>	-20	V		
(Base open)	2SB1070A		-40			
Emitter-base voltage (Coll	V <sub>EBO</sub>	-5	V			
Collector current	I <sub>C</sub>	-4	А			
Peak collector current		I <sub>CP</sub>	-8	А		
Collector power dissipation		P <sub>C</sub>	25	W		
	$T_a = 25^{\circ}C$		1.3			
Junction temperature		Tj	150	°C		
Storage temperature	T <sub>stg</sub>	-55 to +150	°C			

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



#### Note) Self-supported type package is also prepared.

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

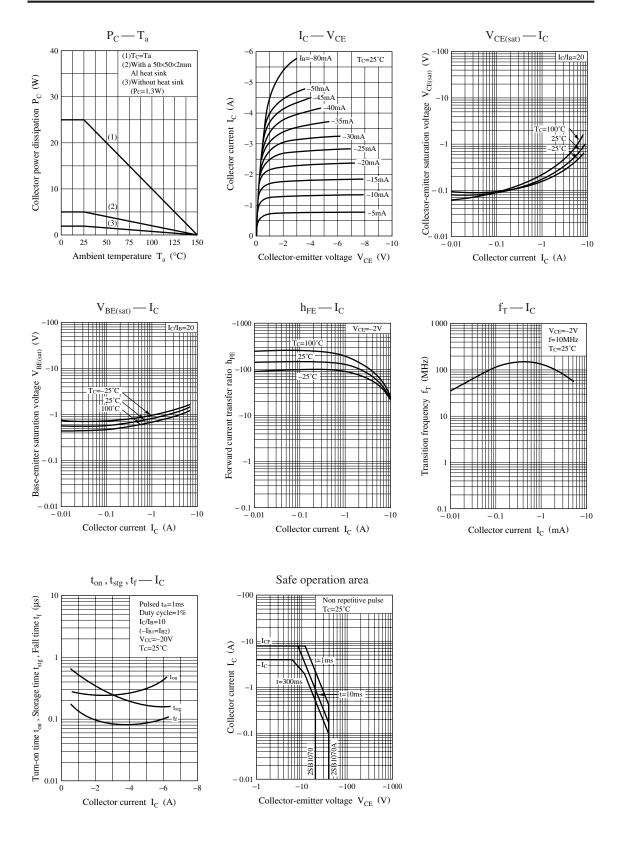
Parameter		Symbol	Conditions	Min	Тур	Max	Unit
Collector-emitter voltage	2SB1070	V <sub>CEO</sub>	$I_{\rm C} = -10 \text{ mA}, I_{\rm B} = 0$	-20			V
(Base open)	2SB1070A			-40			
Collector-base cutoff	2SB1070	I <sub>CBO</sub>	$V_{CB} = -40 \text{ V}, I_E = 0$			-50	μΑ
current (Emitter open)	2SB1070A		$V_{CB} = -50 \text{ V}, I_E = 0$			-50	
Emitter-base cutoff current (Col	lector open)	I <sub>EBO</sub>	$V_{EB} = -5 V, I_C = 0$			-50	μΑ
Forward current transfer rat	io	h <sub>FE1</sub>	$V_{CE} = -2 V, I_C = -0.1 A$	45			
		h <sub>FE2</sub> *	$V_{CE} = -2 V, I_C = -1 A$	90		260	
Base-emitter saturation volt	age	V <sub>BE(sat)</sub>	$I_{\rm C} = -2$ A, $I_{\rm B} = -0.1$ A			-1.5	V
Collector-emitter saturation	voltage	V <sub>CE(sat)</sub>	$I_{\rm C} = -2$ A, $I_{\rm B} = -0.1$ A			- 0.5	V
Transition frequency		f <sub>T</sub>	$V_{CE} = -5 \text{ V}, I_C = -0.5 \text{ A}, f = 10 \text{ MHz}$		150		MHz
Turn-on time		t <sub>on</sub>	$I_{\rm C} = -2 \text{ A}$		0.3		μs
Storage time		t <sub>stg</sub>	$I_{B1} = -0.2 \text{ A}, I_{B2} = 0.2 \text{ A}$		0.4		μs
Fall time		t <sub>f</sub>	$V_{CC} = -20 \text{ V}$		0.1		μs

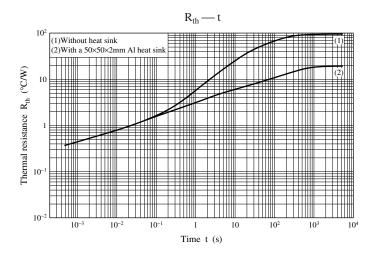
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

Rank	Q	Р
h <sub>FE2</sub>	90 to 180	130 to 260

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