# 2SB0936 (2SB936), 2SB0936A (2SB936A)

## Silicon PNP epitaxial planar type

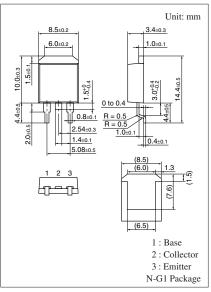
#### For low-voltage switching

#### ■ Features

- Low collector-emitter saturation voltage V<sub>CE(sat)</sub>
- 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 $T_C = 25$ °C

Parameter	Symbol	Rating	Unit	
Collector-base voltage	2SB0936	V <sub>CBO</sub>	-40	V
(Emitter open)	2SB0936A		-50	
Collector-emitter voltage	2SB0936	V <sub>CEO</sub>	-20	V
(Base open)	2SB0936A		-40	
Emitter-base voltage (Col	$V_{EBO}$	-5	V	
Collector current	$I_C$	-10	A	
Peak collector current	$I_{CP}$	-20	A	
Collector power dissipation	P <sub>C</sub>	40	W	
	$T_a = 25^{\circ}C$		1.3	
Junction temperature		$T_{j}$	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C	



Note) Self-supported type package is also prepared.

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

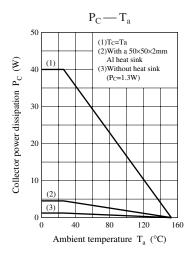
Parameter		Symbol	Conditions	Min	Тур	Max	Unit
Collector-emitter voltage	2SB0936	V <sub>CEO</sub>	$I_C = -10 \text{ mA}, I_B = 0$	-20			V
(Base open)	2SB0936A			-40			
Collector-base cutoff	2SB0936	$I_{CBO}$	$V_{CB} = -40 \text{ V}, I_{E} = 0$			-50	μΑ
current (Emitter open)	2SB0936A		$V_{CB} = -50 \text{ V}, I_E = 0$			-50	
Emitter-base cutoff current (Col	lector open)	$I_{EBO}$	$V_{EB} = -5 \text{ V}, I_C = 0$			-50	μΑ
Forward current transfer rat	io	h <sub>FE1</sub> *	$V_{CE} = -2 \text{ V}, I_{C} = -0.1 \text{ A}$	45			_
		h <sub>FE2</sub>	$V_{CE} = -2 \text{ V}, I_{C} = -3 \text{ A}$	90		260	
Base-emitter voltage		V <sub>BE(sat)</sub>	$I_C = -10 \text{ A}, I_B = -0.33 \text{ A}$			-1.5	V
Collector-emitter saturation	voltage	V <sub>CE(sat)</sub>	$I_C = -10 \text{ A}, I_B = -0.33 \text{ A}$			- 0.6	V
Transition frequency		$f_T$	$V_{CE} = -10 \text{ V}, I_{C} = -0.5 \text{ A}, f = 10 \text{ MHz}$		100		MHz
Collector output capacitance		C <sub>ob</sub>	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		400		pF
(Common base, input open circuited)							
Turn-on time		t <sub>on</sub>	$I_C = -3 A$		0.1		μs
Storage time		t <sub>stg</sub>	$I_{B1} = -0.1 \text{ A}, I_{B2} = 0.1 \text{ A}$		0.5		μs
Fall time		t <sub>f</sub>	$V_{CC} = -20 \text{ V}$		0.1		μs

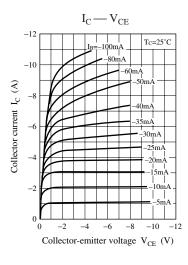
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

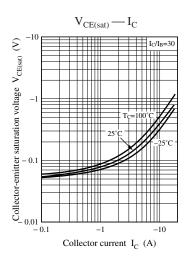
#### 2. \*: Rank classification

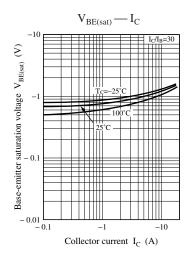
Rank	Q	Р		
$h_{FE1}$	90 to 180	130 to 260		

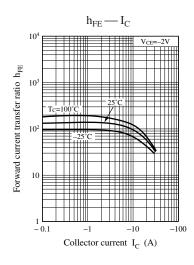
Note) The part number in the parenthesis shows conventional part number.

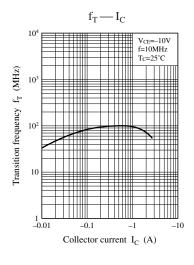


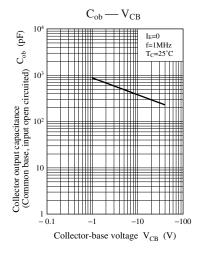


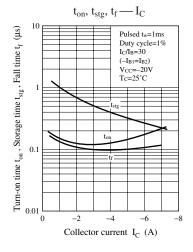


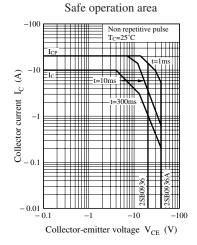


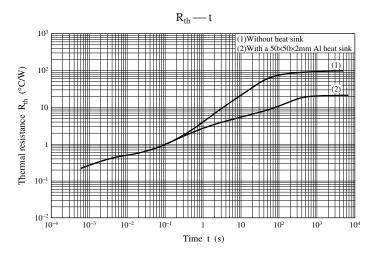












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