

# 2SA2010

## Silicon PNP epitaxial planer type

For DC-DC converter

For various driver circuits

### ■ Features

- Low collector to emitter saturation voltage  $V_{CE(sat)}$ , large current capacitance
- High-speed switching
- Mini type 3-pin package, allowing downsizing and thinning of the equipment.
- Complementary pair with 2SC5592

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

Parameter	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	-15	V
Collector to emitter voltage	$V_{CEO}$	-15	V
Emitter to base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-10	A
Collector current	$I_C$	-2.5	A
Collector power dissipation *	$P_C$	600	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

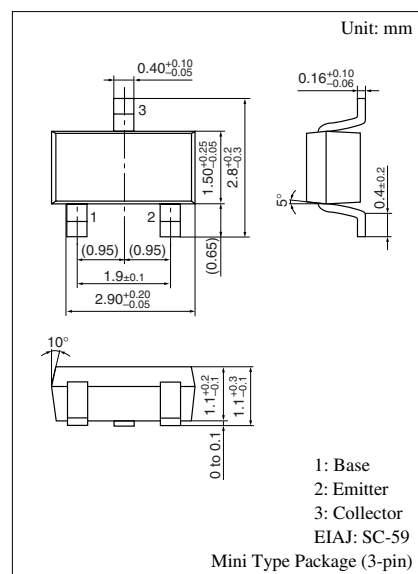
Note) \*: Measure on the ceramic substrate at  $15 \times 15 \times 0.6 \text{ mm}^3$ .

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -10 \text{ V}, I_E = 0$			-0.1	$\mu\text{A}$
Collector to base voltage	$V_{CBO}$	$I_C = -10 \mu\text{A}, I_E = 0$	-15			V
Collector to emitter voltage	$V_{CEO}$	$I_C = -1 \text{ mA}, I_B = 0$	-15			V
Emitter to base voltage	$V_{EBO}$	$I_E = -10 \mu\text{A}, I_C = 0$	-5			V
Forward current transfer ratio *1	$h_{FE1}$	$V_{CE} = -2 \text{ V}, I_C = -100 \text{ mA}$	200		560	
	$h_{FE2}$	$V_{CE} = -2 \text{ V}, I_C = -2.5 \text{ A}$	100			
Collector to emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = -1 \text{ A}, I_B = -10 \text{ mA}$		-140		mV
		$I_C = -2.5 \text{ A}, I_B = -50 \text{ mA}$		-270	-320	mV
Collector output capacitance	$C_{ob}$	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		40		pF
Transition frequency	$f_T$	$V_{CB} = -10 \text{ V}, I_E = 50 \text{ mA}$ $f = 200 \text{ MHz}$		180		MHz
Turn-on time *2	$t_{on}$			35		ns
Storage time *2	$t_{stg}$			110		ns
Turn-off time *2	$t_{off}$			10		ns

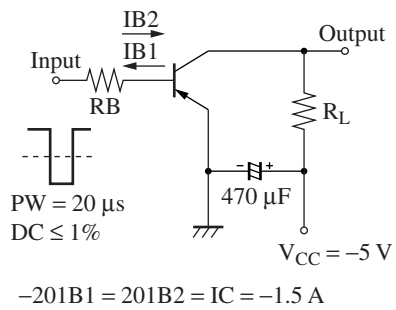
Note) \*1: Rank classification

\*2: Reference to the measurement circuit.



Marking Symbol: AS

# ■ Measurement Circuit



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