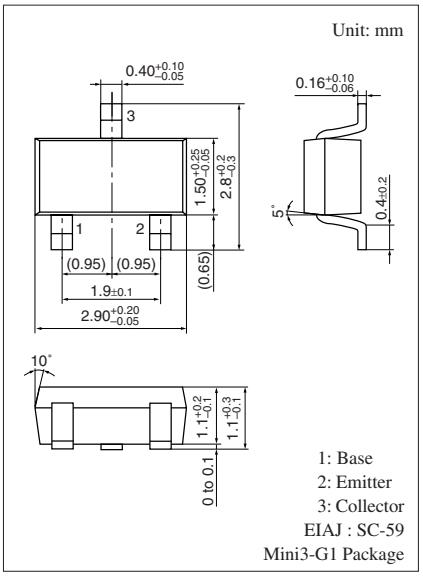
2SA2010

Silicon PNP epitaxial planar type

For DC-DC converter
For various driver circuits



Marking Symbol: AS

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- High-speed switching
- Mini type package, allowing downsizing and thinning of the equipment and automatic insertion through the tape packing.

■ Absolute Maximum Ratings $T_a = 25°C$

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

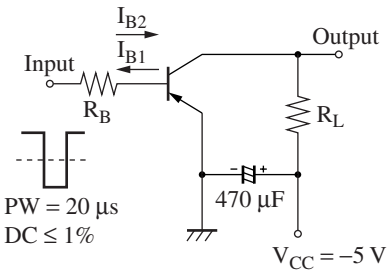
Note) *: Measure on the ceramic substrate at 15 mm × 15 mm × 0.6 mm

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

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

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Pulse measurement

■ Measurement Circuit



$-20I_{B1} = 20I_{B2} = I_C = -1.5$ A

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