

2SC5813

Silicon NPN epitaxial planar type

For DC-DC converter

■ Features

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

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	80	V
Collector-emitter voltage (Base open)	V_{CEO}	80	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	1.5	A
Peak collector current	I_{CP}	3	A
Collector power dissipation *	P_C	600	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

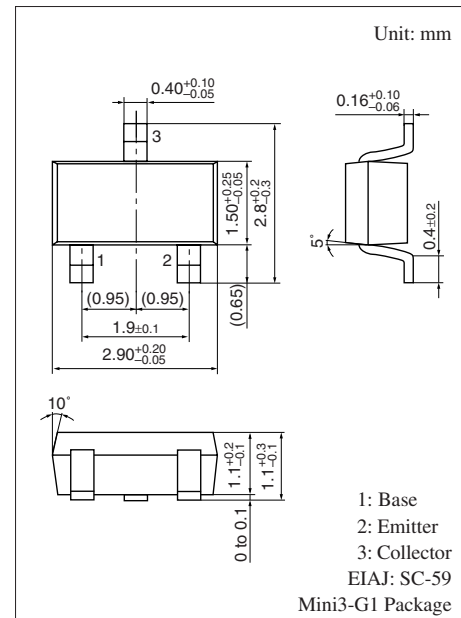
Note) *: Measure on the ceramic substrate at 15 mm × 15 mm × 0.6 mm

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

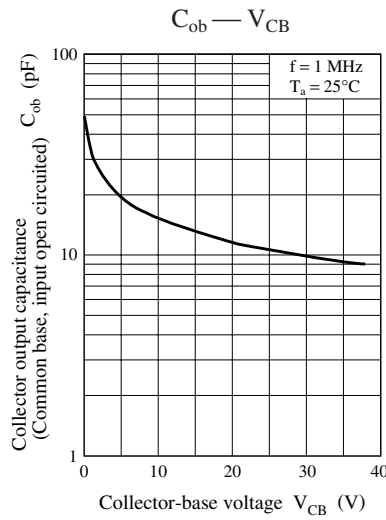
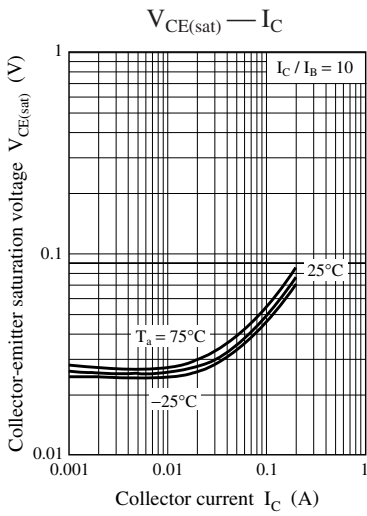
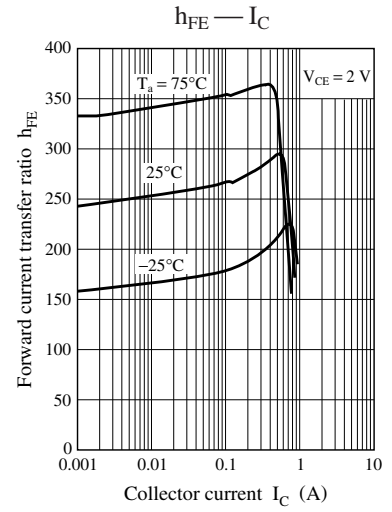
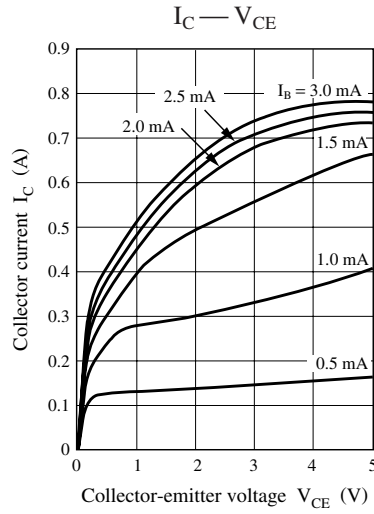
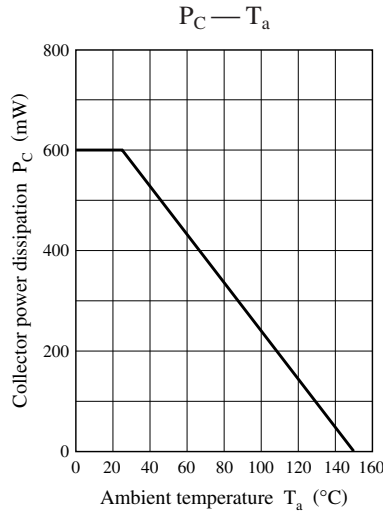
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10 \mu\text{A}$, $I_E = 0$	80			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1 \text{ mA}$, $I_B = 0$	80			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10 \mu\text{A}$, $I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 40 \text{ V}$, $I_E = 0$			0.1	μA
Forward current transfer ratio *	h_{FE}	$V_{CE} = 2 \text{ V}$, $I_C = 100 \text{ mA}$	200			—
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 1 \text{ A}$, $I_B = 20 \text{ mA}$		350	500	mV
Transition frequency	f_T	$V_{CB} = 10 \text{ V}$, $I_E = -50 \text{ mA}$, $f = 200 \text{ MHz}$		180		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$		15	25	pF

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

2. *: Pulse measurement



Marking Symbol: 5H



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