

2SD2413

Silicon NPN triple diffusion planar type

For low-frequency output amplification

■ Features

- High collector-base voltage (Emitter open) V_{CB0}
- High collector-emitter voltage (Base open) V_{CEO}
- Large collector power dissipation P_C
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CB0}	400	V
Collector-emitter voltage (Base open)	V_{CEO}	400	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	100	mA
Peak collector current	I_{CP}	200	mA
Collector power dissipation *	P_C	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

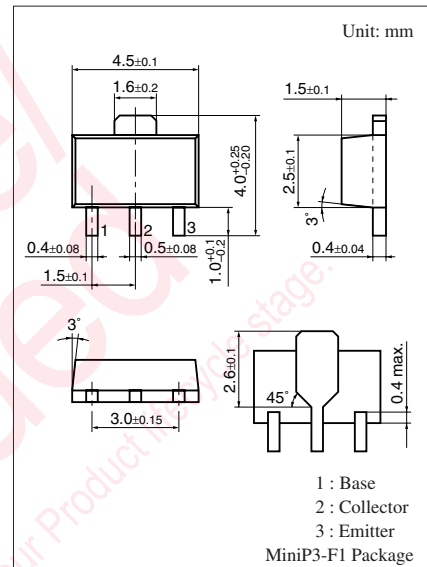
Note) *: Printed circuit board: Copper foil area of 1 cm² or more, and the board thickness of 1.7 mm for the collector portion

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

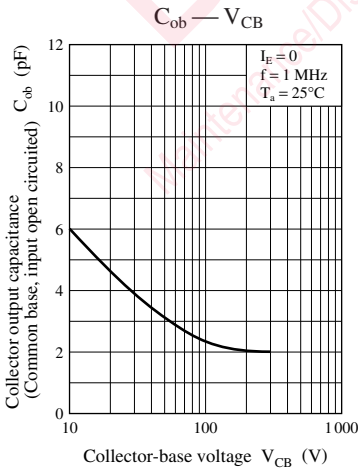
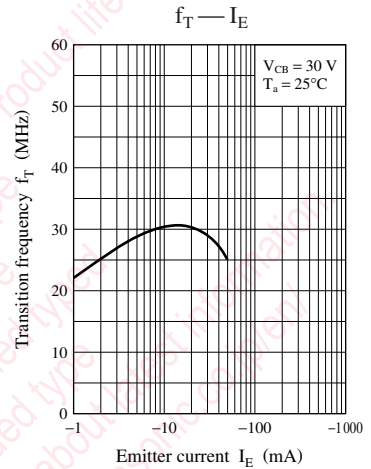
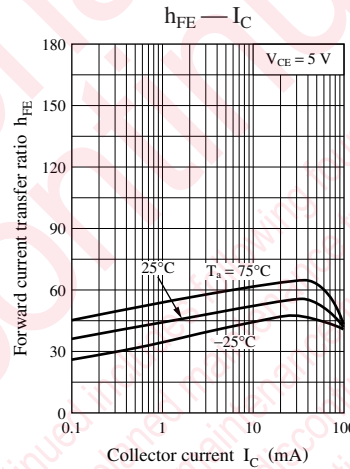
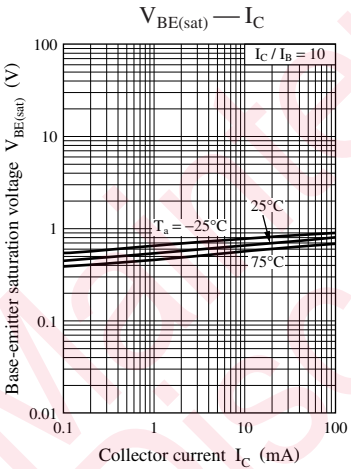
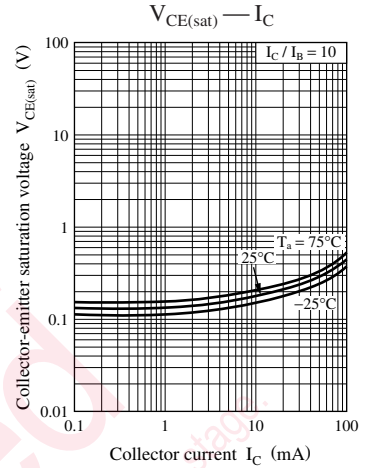
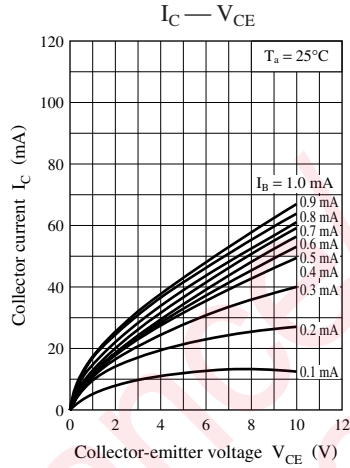
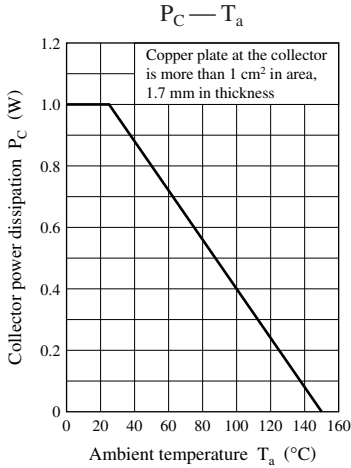
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CB0}	$I_C = 100 \mu\text{A}$, $I_E = 0$	400			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 500 \mu\text{A}$, $I_B = 0$	400			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 100 \mu\text{A}$, $I_C = 0$	5			V
Forward current transfer ratio	h_{FE}	$V_{CE} = 5 \text{ V}$, $I_C = 30 \text{ mA}$	30			—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50 \text{ mA}$, $I_B = 5 \text{ mA}$			1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50 \text{ mA}$, $I_B = 5 \text{ mA}$			1.5	V
Transition frequency *	f_T	$V_{CB} = 30 \text{ V}$, $I_E = -20 \text{ mA}$, $f = 200 \text{ MHz}$		40		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 30 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$			7	pF

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

2. *: Pulse measurement



Marking Symbol: 1S



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