



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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 $T_a = 25^\circ\text{C}$

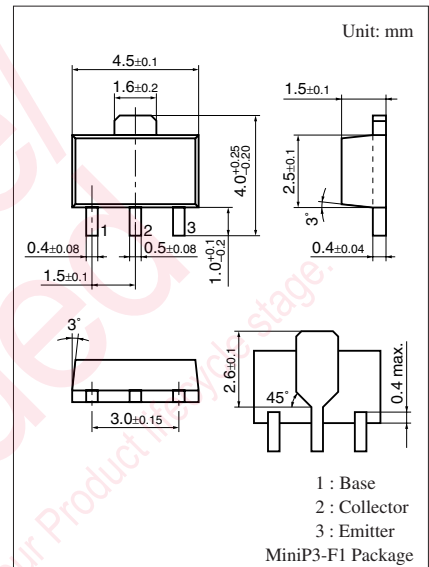
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CB0}	400	V
Collector-emitter voltage (Base open)	V_{CEO}	400	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	100	mA
Peak collector current	I_{CP}	200	mA
Collector power dissipation *	P_C	1	W
Junction temperature	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

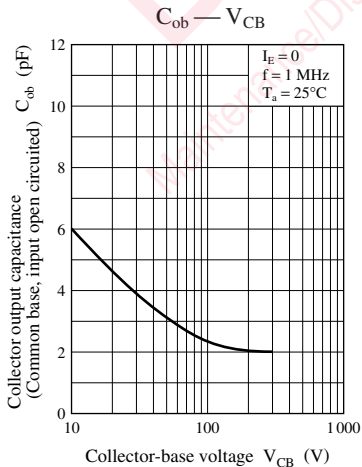
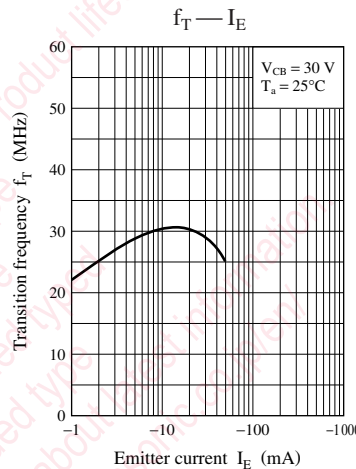
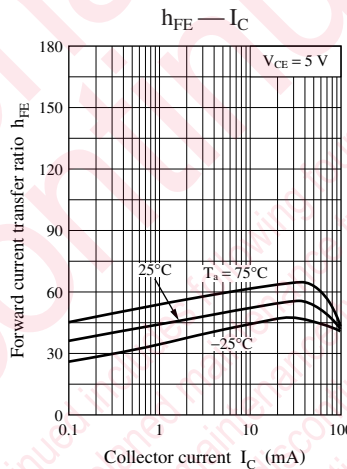
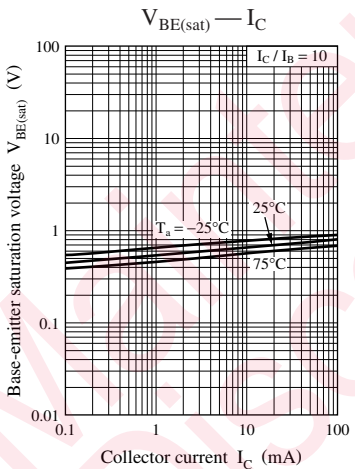
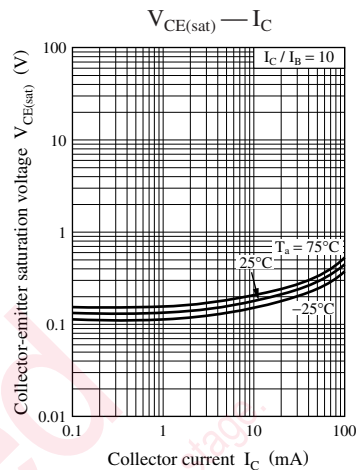
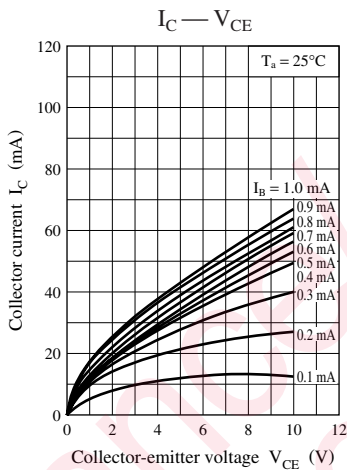
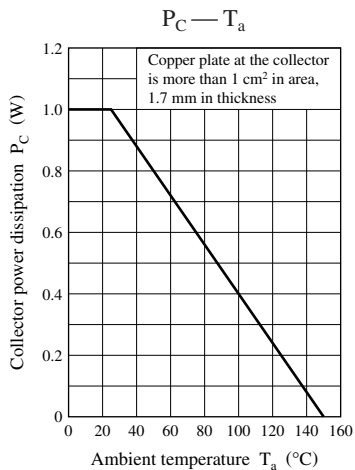
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

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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