

2SD1423, 2SD1423A

Silicon NPN epitaxial planar type

For low-frequency amplification

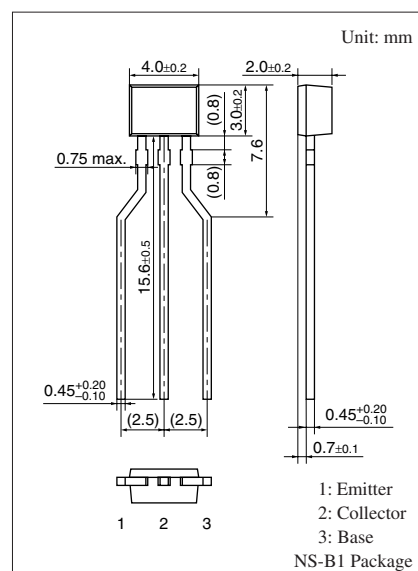
Complementary to 2SB1030 and 2SB1030A

■ Features

- Optimum for high-density mounting
- Allowing supply with the radial tapping

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

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SD1423	V_{CBO}	30	V
	2SD1423A		60	
Collector-emitter voltage (Base open)	2SD1423	V_{CEO}	25	V
	2SD1423A		50	
Emitter-base voltage (Collector open)		V_{EBO}	7	V
Collector current		I_C	0.5	A
Peak collector current		I_{CP}	1	A
Collector power dissipation *		P_C	300	mW
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	-55 to +150	°C



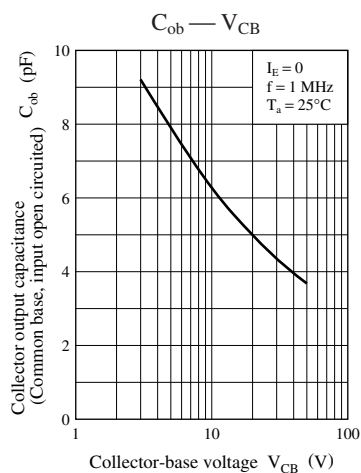
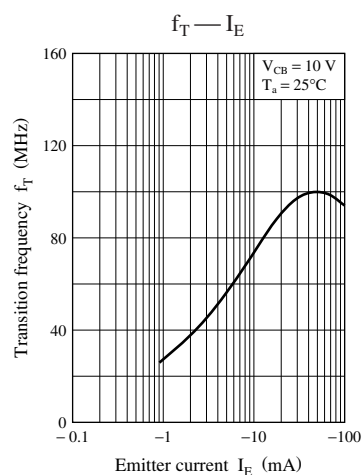
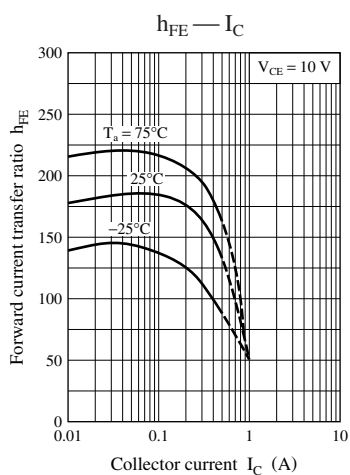
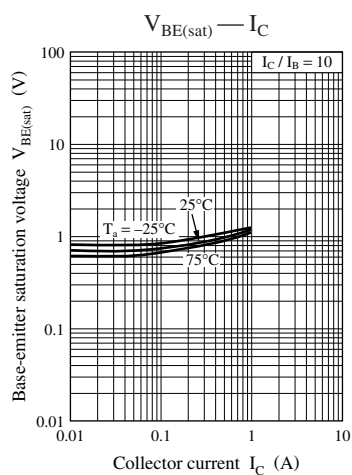
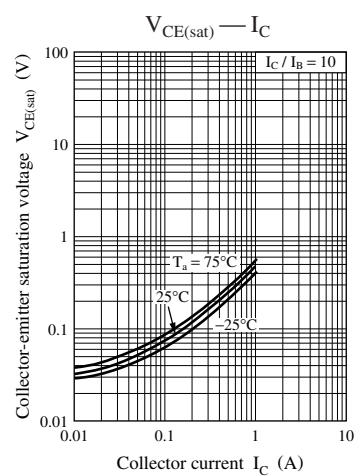
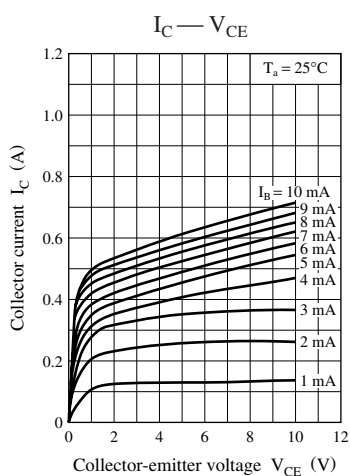
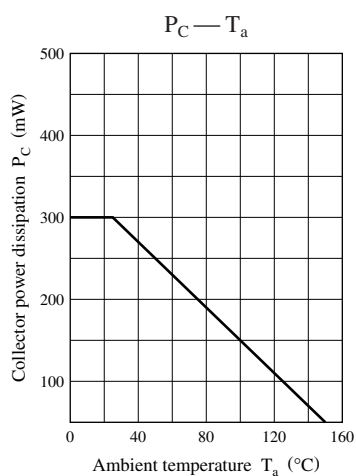
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	2SD1423 2SD1423A	V_{CBO} $I_C = 10\ \mu\text{A}, I_E = 0$	30			V
			60			
Collector-emitter voltage (Base open)	2SD1423 2SD1423A	V_{CEO} $I_C = 2\ \text{mA}, I_B = 0$	25			V
			50			
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu\text{A}, I_C = 0$	7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 20\ \text{V}, I_E = 0$			0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = 20\ \text{V}, I_B = 0$			1	μA
Forward current transfer ratio	h_{FE1} *	$V_{CE} = 10\ \text{V}, I_C = 150\ \text{mA}$	85		340	—
	h_{FE2}	$V_{CE} = 10\ \text{V}, I_C = 500\ \text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 300\ \text{mA}, I_B = 30\ \text{mA}$			0.6	V
Transition frequency	f_T	$V_{CB} = 10\ \text{V}, I_E = -50\ \text{mA}, f = 200\ \text{MHz}$		200		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10\ \text{V}, I_E = 0, f = 1\ \text{MHz}$		6	15	pF

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

2. *: Rank classification

Rank	Q	R	S
h_{FE1}	85 to 170	120 to 240	170 to 340



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