

2SB0643, 2SB0644 (2SB643, 2SB644)

Silicon PNP epitaxial planar type

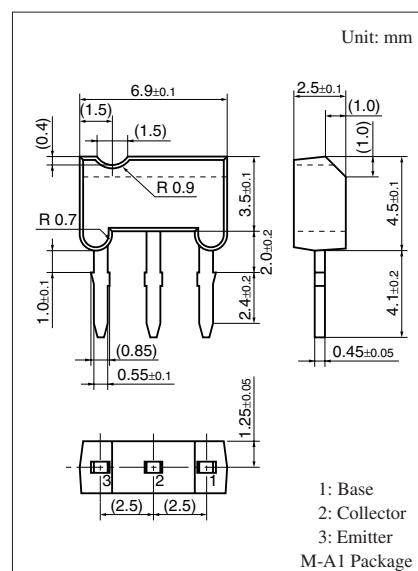
For low-frequency general amplification

■ Features

- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

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

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SB0643	V_{CBO}	−30	V
	2SB0644		−60	
Collector-emitter voltage (Base open)	2SB0643	V_{CEO}	−25	V
	2SB0644		−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	600	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)	2SB0643 2SB0644	V_{CBO} $I_C = -10\ \mu\text{A}, I_E = 0$	-30			V
			-60			
Collector-emitter voltage (Base open)	2SB0643 2SB0644	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 ^{*1}	h_{FE1} ^{*2}	$V_{CE} = -10\ \text{V}, I_C = -10\ \text{mA}$	85		340	—
		$V_{CE} = -10\ \text{V}, I_C = -500\ \text{mA}$	40	90		—
Collector-emitter saturation voltage ^{*1}	$V_{CE(sat)}$	$I_C = -300\ \text{mA}, I_B = -30\ \text{mA}$		-0.35	-0.6	V
Transition frequency	f_T	$V_{CB} = -10\ \text{V}, I_E = 10\ \text{mA}, f = 200\ \text{MHz}$		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

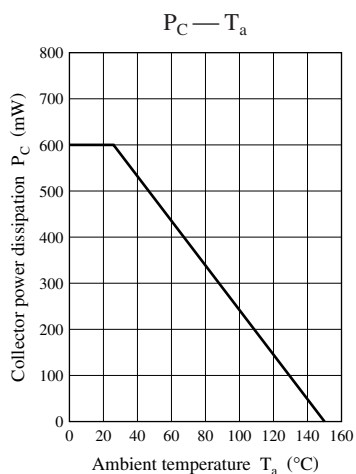
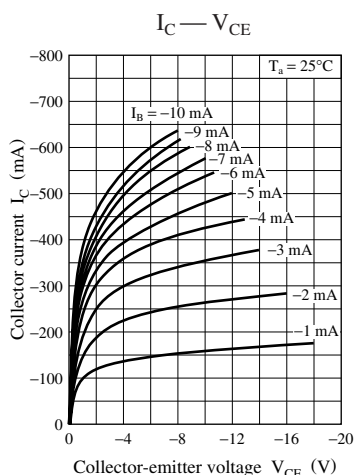
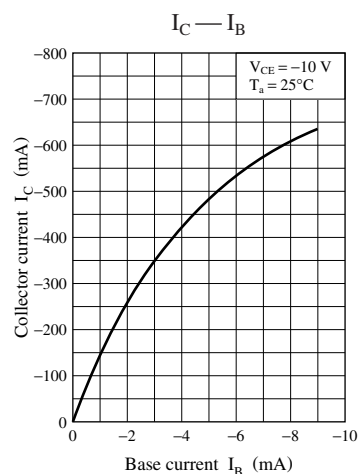
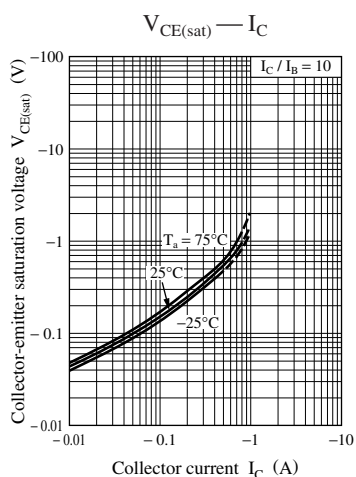
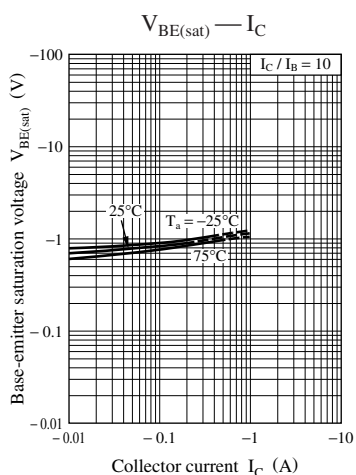
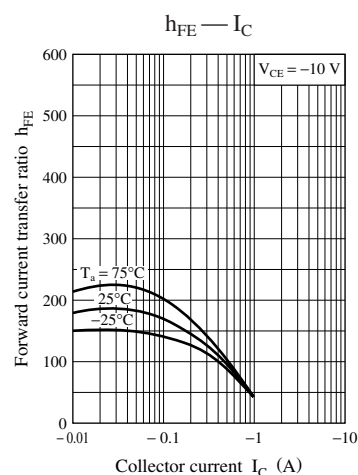
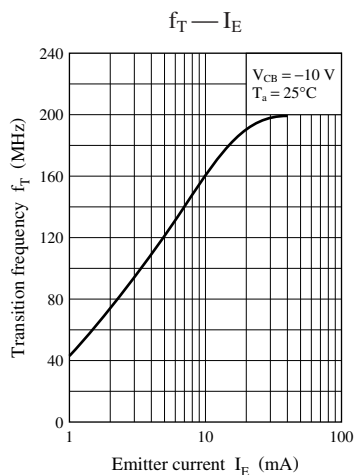
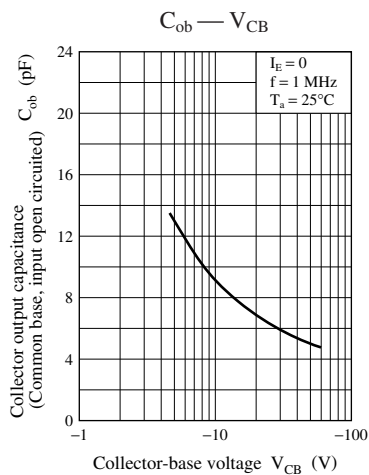
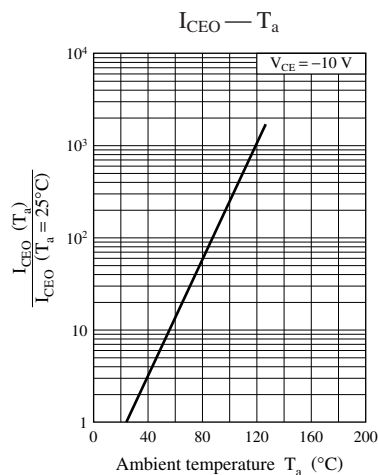
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. ^{*1}: Pulse measurement

^{*2}: Rank classification

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

Note) The part numbers in the parenthesis show conventional part number.



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