

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

Silicon PNP epitaxial planar type

For low-power general amplification

Complementary to 2SD0638 (2SD638) and 2SD0639 (2SD639)

■ 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 to base voltage	2SB0643	V_{CBO}	−30	V
	2SB0644		−60	
Collector to emitter voltage	2SB0643	V_{CEO}	−25	V
	2SB0644		−50	
Emitter to base voltage		V_{EBO}	−7	V
Peak collector current		I_{CP}	−1	A
Collector current		I_{C}	− 0.5	A
Collector power dissipation		P_{C}	600	mW
Junction temperature		T_{j}	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

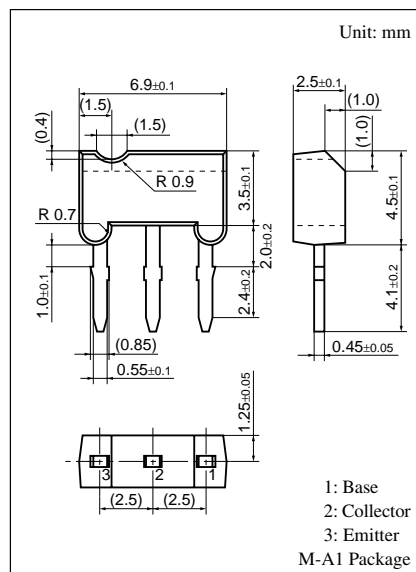
■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{\text{CB}} = -20 \text{ V}, I_{\text{E}} = 0$			–100	nA
	I_{CEO}	$V_{\text{CE}} = -20 \text{ V}, I_{\text{B}} = 0$			–1	μA
Collector to base voltage	2SB0643	V_{CBO}	$I_{\text{C}} = -10 \mu\text{A}, I_{\text{E}} = 0$	–30		V
	2SB0644			–60		
Collector to emitter voltage	2SB0643	V_{CEO}	$I_{\text{C}} = -2 \text{ mA}, I_{\text{B}} = 0$	–25		V
	2SB0644			–50		
Emitter to base voltage	V_{EBO}	$I_{\text{E}} = -10 \mu\text{A}, I_{\text{C}} = 0$	–7			V
Forward current transfer ratio *1	h_{FE1} *2	$V_{\text{CE}} = -10 \text{ V}, I_{\text{C}} = -150 \text{ mA}$	85		340	
	h_{FE2}	$V_{\text{CE}} = -10 \text{ V}, I_{\text{C}} = -500 \text{ mA}$	40	90		
Collector to emitter saturation voltage *1	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -300 \text{ mA}, I_{\text{B}} = -30 \text{ mA}$		–0.35	–0.6	V
Transition frequency	f_{T}	$V_{\text{CB}} = -10 \text{ V}, I_{\text{E}} = 10 \text{ mA}, f = 200 \text{ MHz}$		200		MHz
Collector output capacitance	C_{ob}	$V_{\text{CB}} = -10 \text{ V}, I_{\text{E}} = 0, f = 1 \text{ MHz}$		6	15	pF

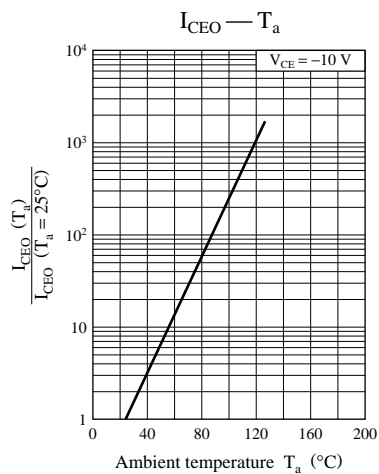
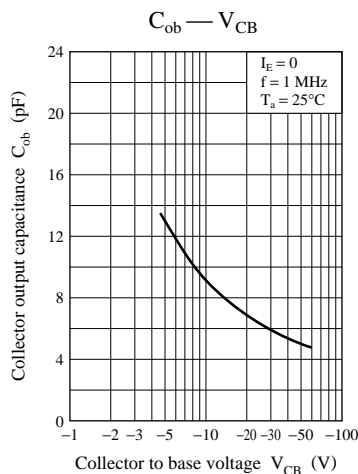
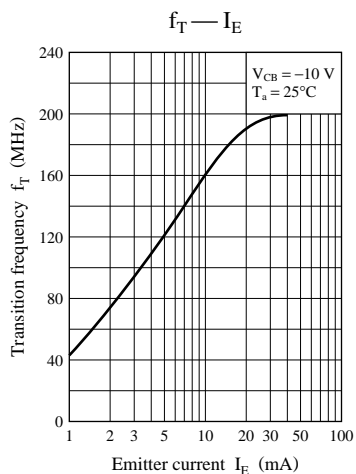
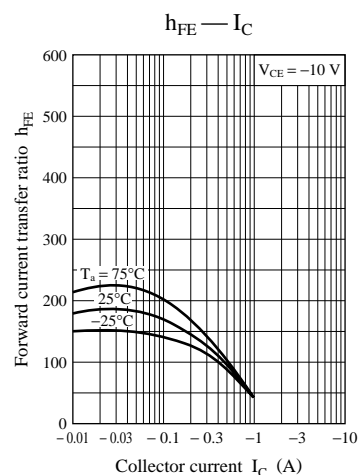
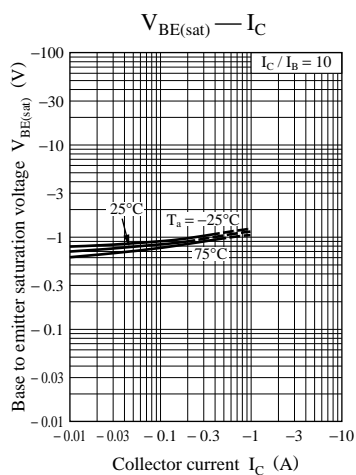
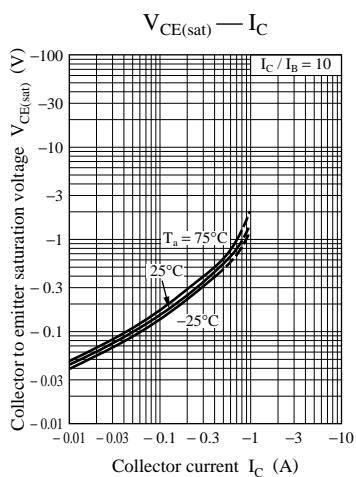
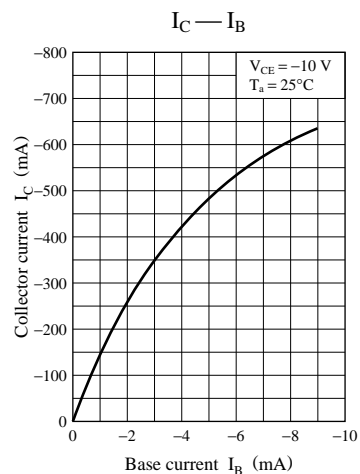
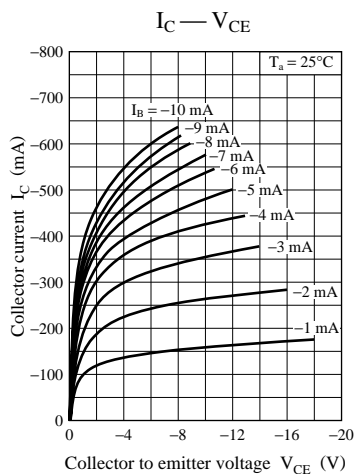
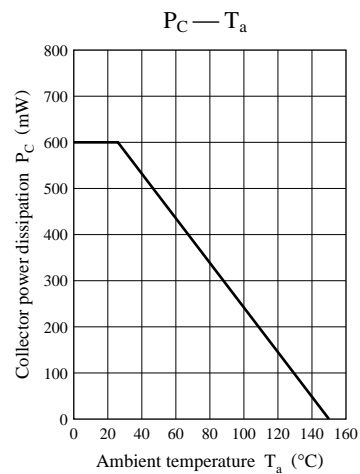
Note) *1: Pulse measurement

*2: h_{FE} 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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