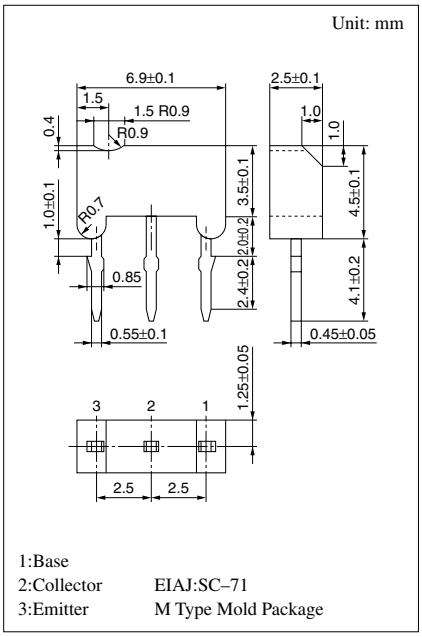
2SB0643, 2SB0644 (2SB643, 2SB644)

Silicon PNP epitaxial planer 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 (Ta=25˚C)

Parameter		Symbol	Ratings	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 ~ +150	˚C

Electrical Characteristics (Ta=25˚C)

Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current		I_{CBO}	V_{CB} = –20V, I_E = 0			–100	nA
		I_{CEO}	V_{CE} = –20V, I_B = 0			–1	µA
Collector to base voltage	2SB0643	V_{CBO}	I_C = –10µA, I_E = 0	–30			V
	2SB0644			–60			
Collector to emitter voltage	2SB0643	V_{CEO}	I_C = –2mA, I_B = 0	–25			V
	2SB0644			–50			
Emitter to base voltage		V_{EBO}	I_E = –10µA, I_C = 0	–7			V
Forward current transfer ratio		h_{FE1} *1	V_{CE} = –10V, I_C = –150mA*2	85		340	
		h_{FE2}	V_{CE} = –10V, I_C = –500mA*2	40	90		
Collector to emitter saturation voltage		$V_{CE(sat)}$	I_C = –300mA, I_B = –30mA*2		– 0.35	– 0.6	V
Transition frequency		f_T	V_{CB} = –10V, I_E = 10mA, f = 200MHz		200		MHz
Collector output capacitance		C_{ob}	V_{CB} = –10V, I_E = 0, f = 1MHz		6	15	pF

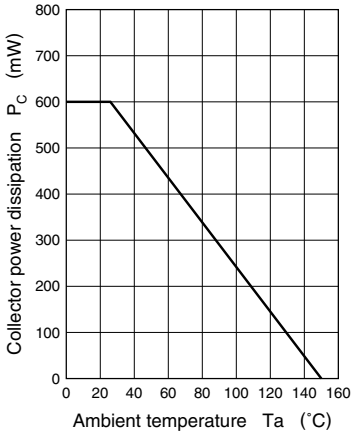
*2 Pulse measurement

*1 h_{FE1} Rank classification

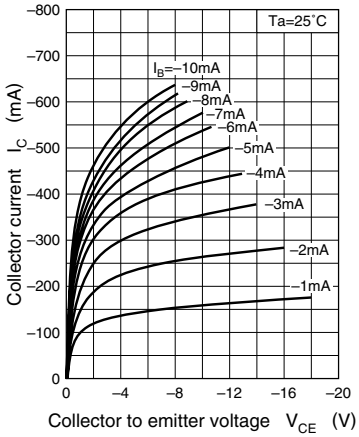
Rank	Q	R	S
h_{FE1}	85 ~ 170	120 ~ 240	170 ~ 340

Note.) The Part numbers in the Parenthesis show conventional part number.

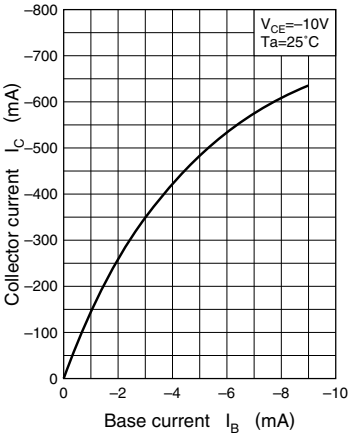
P_C — Ta



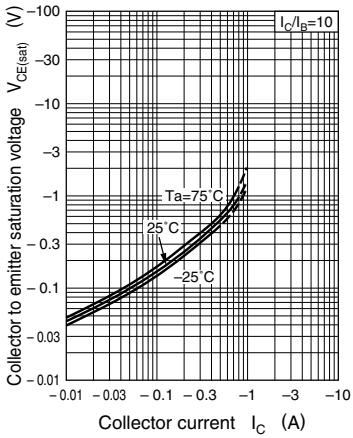
I_C — V_{CE}



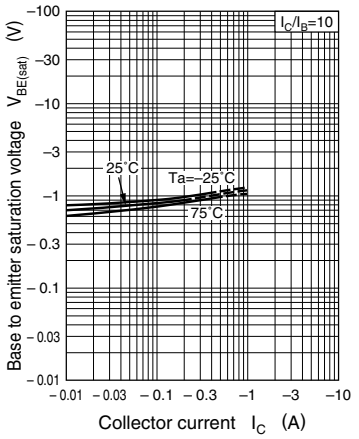
I_C — I_B



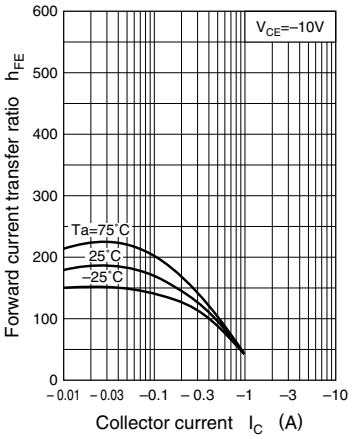
$V_{CE(sat)}$ — I_C



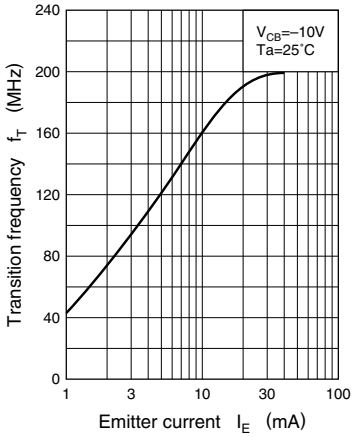
$V_{BE(sat)}$ — I_C



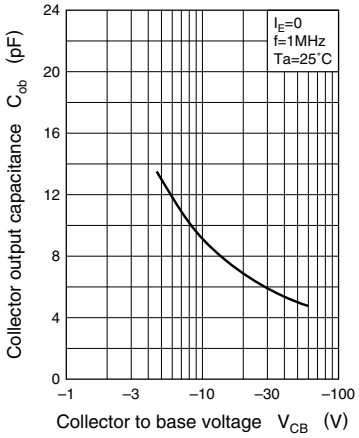
h_{FE} — I_C



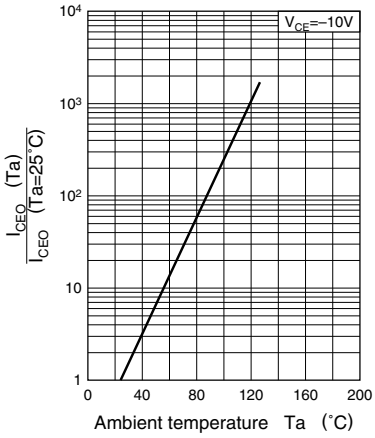
f_T — I_E



C_{ob} — V_{CB}



I_{CEO} — Ta



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