

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

Silicon PNP epitaxial planer type

For low-power general amplification

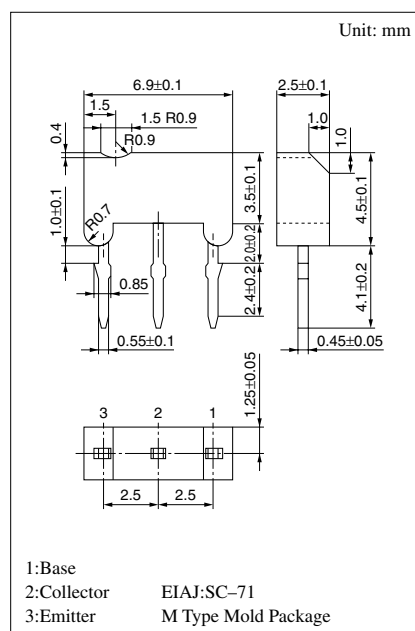
Complementary to 2SD0638 (2SD638) and 2SD0639 (2SD639)

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	V _{CBO}	-30	V
2SB0644		-60	
Collector to emitter voltage	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	V _{CBO}	I _C = -10μA, I _E = 0	-30			V
			-60			
Collector to emitter voltage	V _{CEO}	I _C = -2mA, I _B = 0	-25			V
			-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

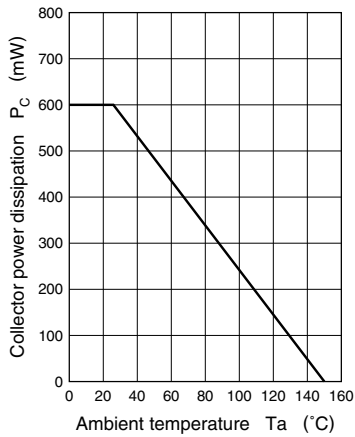
^{*2} Pulse measurement

^{*1}h_{FE1} Rank classification

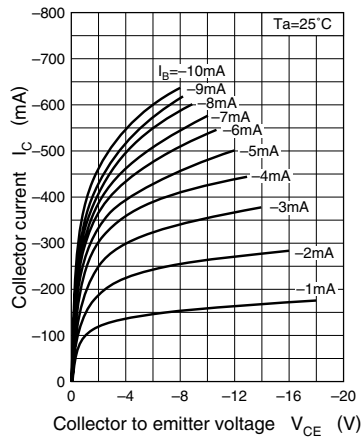
Rank	Q	R	S
h _{FE1}	85 ~ 170	120 ~ 240	170 ~ 340

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

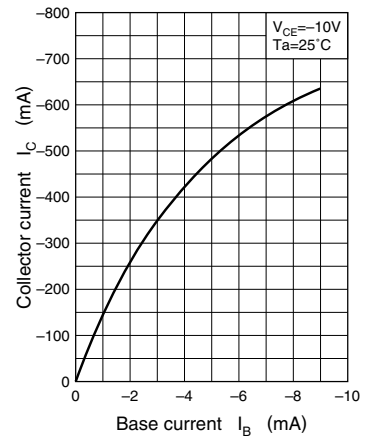
$P_C - T_a$



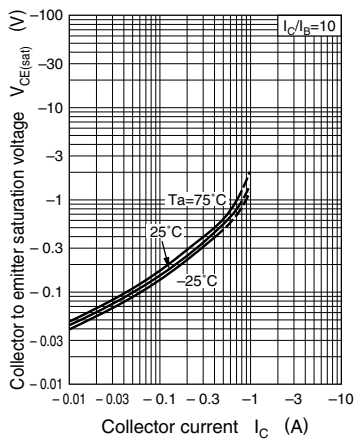
$I_C - V_{CE}$



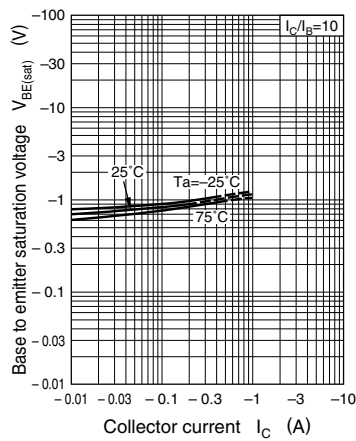
$I_C - I_B$



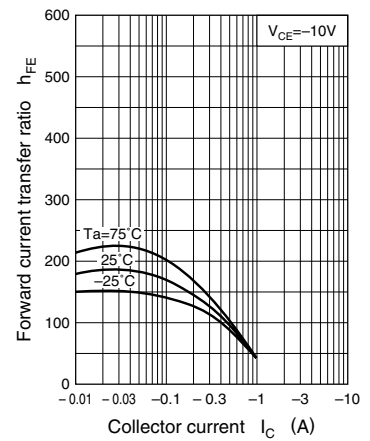
$V_{CE(sat)} - I_C$



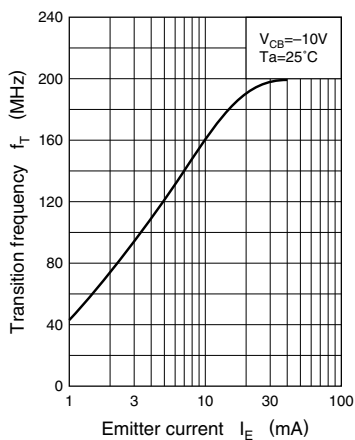
$V_{BE(sat)} - I_C$



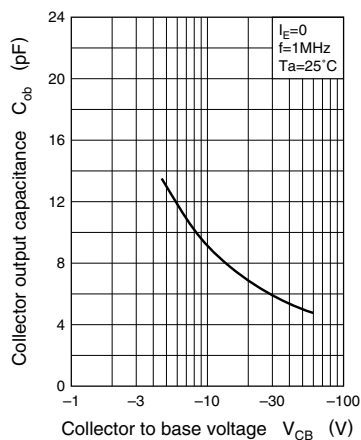
$h_{FE} - I_C$



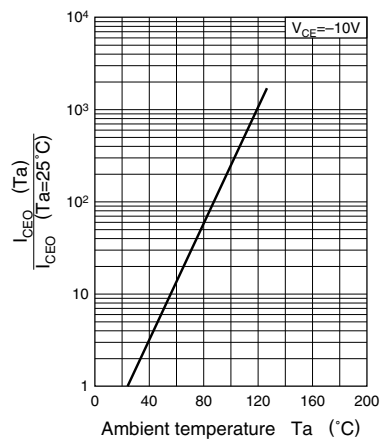
$f_T - I_E$



$C_{ob} - V_{CB}$



$I_{CEO} - T_a$



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