

2SB641, 2SB642

Silicon PNP Epitaxial Planar Type

For low-power general amplification

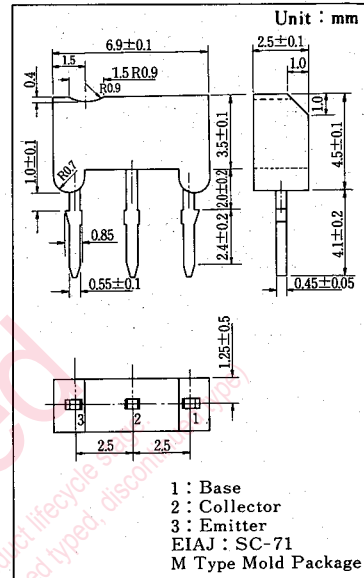
■ Features

- High DC current gain h_{FE}
- An M type mold package that allows easy manual and automatic insertion.
Can be firmly mounted flush to PCB surface.

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

Item	Symbol	Value	Unit
Collector-Base Voltage	2SB641 2SB642	V_{CBO}	V
Collector-Emitter Voltage	2SB641 2SB642	V_{CEO}	V
Emitter-Base Voltage	V_{EBO}	-7	V
Peak Collector Voltage	I_{CP}	-200	mA
Collector Current	I_C	-100	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

■ Package Dimensions



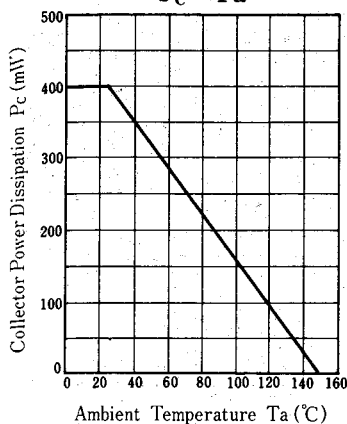
■ Electrical Characteristics ($T_a=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = -20\text{ V}, I_E = 0$			-1	μA
	I_{CEO}	$V_{CE} = -20\text{ V}, I_B = 0$			-1	
Collector-Base Voltage	2SB641 2SB642	V_{CBO}	$I_C = -10\text{ }\mu\text{A}, I_E = 0$			V
Collector-Emitter Voltage	2SB641 2SB642	V_{CEO}	$I_C = -2\text{ mA}, I_B = 0$			V
Emitter-Base Voltage	V_{EBO}	$I_E = -10\text{ }\mu\text{A}, I_C = 0$	-7			V
DC Current Gain	h_{FE}^*	$V_{CE} = -10\text{ V}, I_C = -2\text{ mA}$	160		460	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -100\text{ mA}, I_B = -10\text{ mA}$			-1	V
Transition Frequency	f_T	$V_{CB} = -10\text{ V}, I_E = 2\text{ mA}, f = 200\text{ MHz}$		150		MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$		3.5		pF

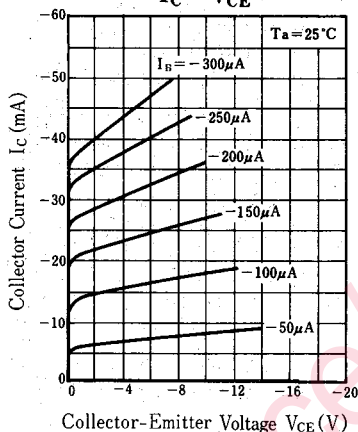
* h_{FE} Ranking

Rank	Q	R	S
h_{FE}	160 ~ 260	210 ~ 340	290 ~ 460

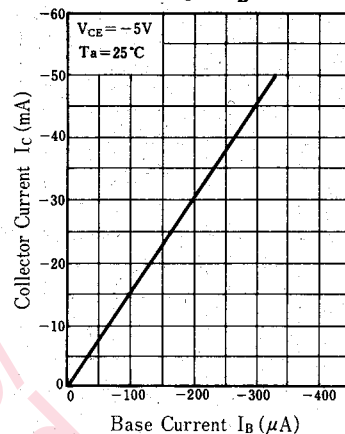
$P_C - T_a$



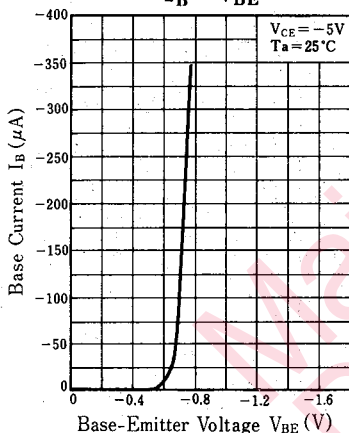
$I_C - V_{CE}$



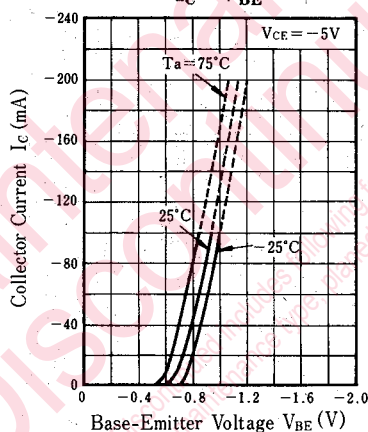
$I_C - I_B$



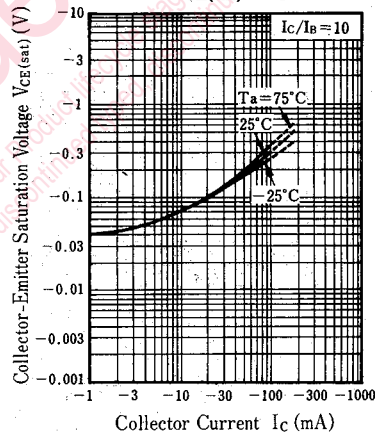
$I_B - V_{BE}$



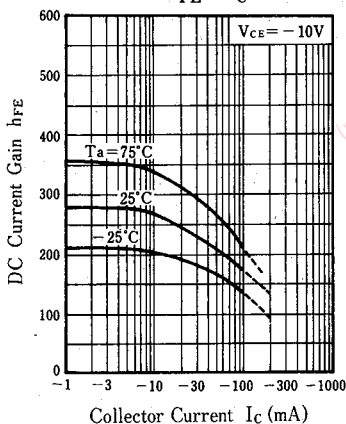
$I_C - V_{BE}$



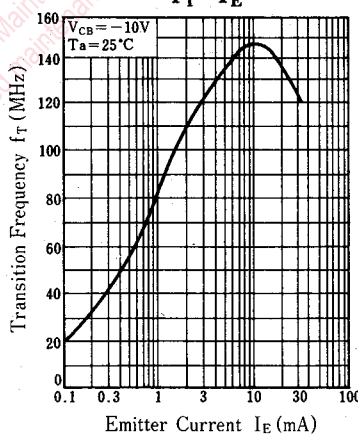
$V_{CE(sat)} - I_C$



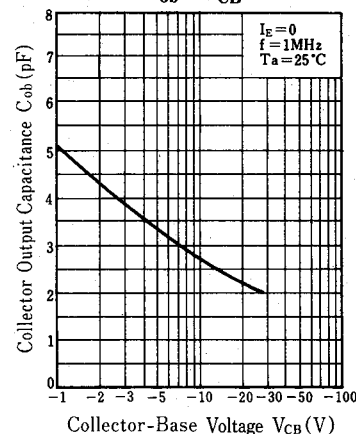
$h_{FE} - I_C$

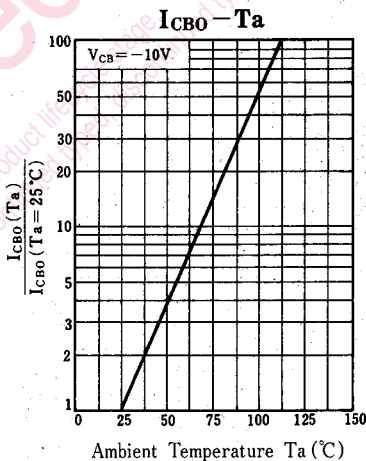
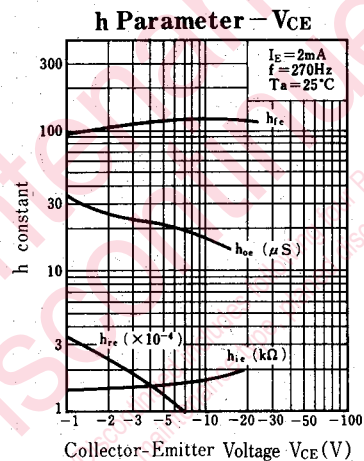
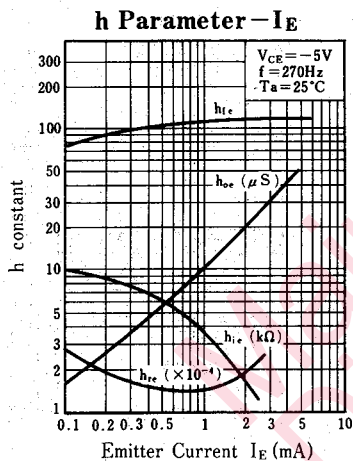
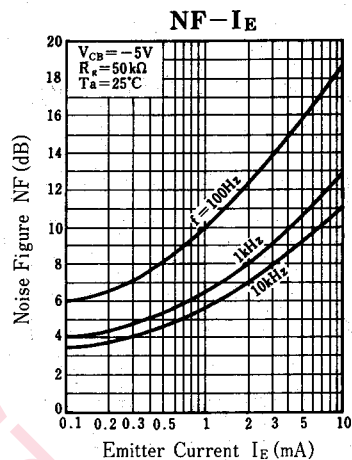
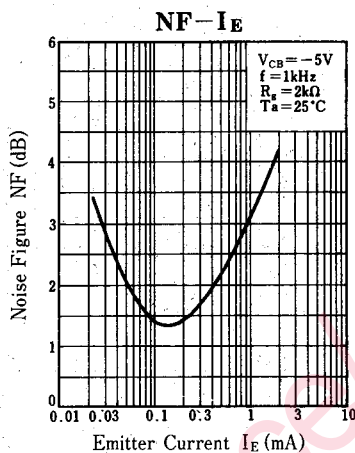
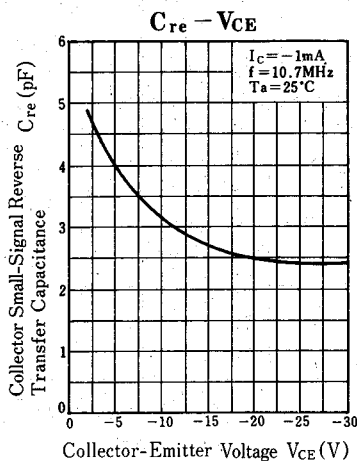


$f_T - I_E$



$C_{ob} - V_{CB}$





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