

2SB970

Silicon PNP epitaxial planer type

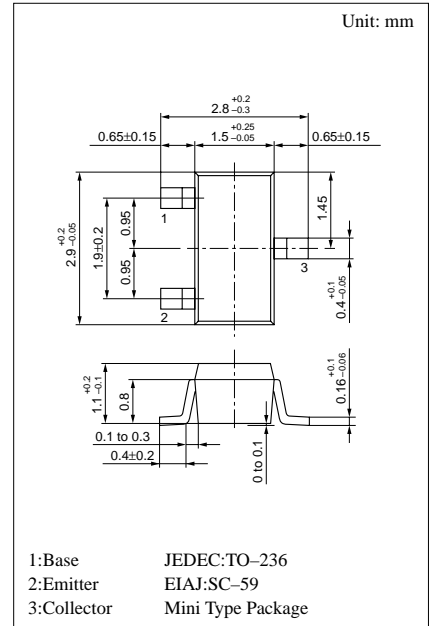
For low-voltage output amplification

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-15	V
Collector to emitter voltage	V_{CEO}	-10	V
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	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C



Marking symbol : 1R

Electrical Characteristics (Ta=25°C)

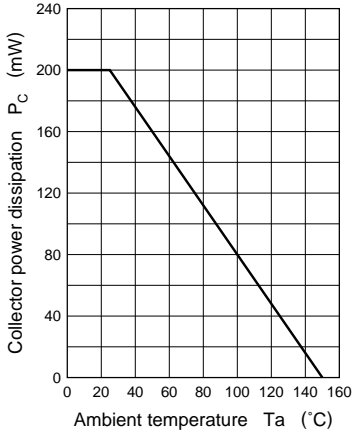
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -10V, I_E = 0$			-100	nA
Collector to base voltage	V_{CBO}	$I_C = -10\mu A, I_E = 0$	-15			V
Collector to emitter voltage	V_{CEO}	$I_C = -1mA, I_B = 0$	-10			V
Emitter to base voltage	V_{EBO}	$I_E = -10\mu A, I_C = 0$	-7			V
Forward current transfer ratio	h_{FE1}^{*1}	$V_{CE} = -2V, I_C = -0.5A^{*2}$	130		350	
	h_{FE2}	$V_{CE} = -2V, I_C = -1A^{*2}$	60			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -0.4A, I_B = -8mA$		-0.16	-0.3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -0.4A, I_B = -8mA$		-0.8	-1.2	V
Transition frequency	f_T	$V_{CB} = -10V, I_E = 50mA, f = 200MHz$		130		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$		22		pF

^{*2} Pulse measurement

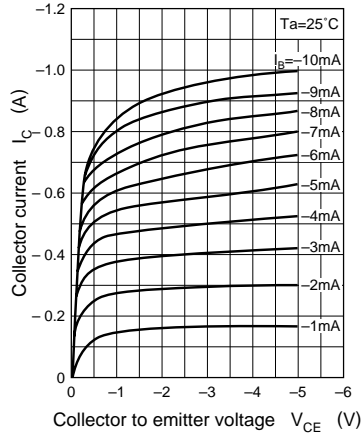
^{*1} h_{FE1} Rank classification

Rank	R	S
h_{FE1}	130 ~ 220	180 ~ 350
Marking Symbol	1RR	1RS

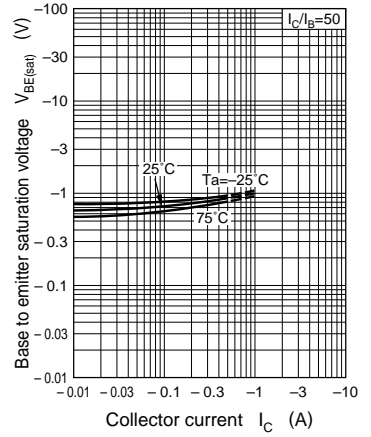
$P_C - T_a$



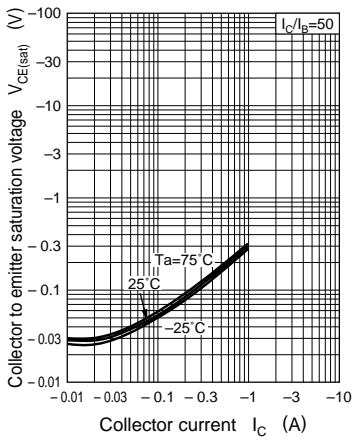
$I_C - V_{CE}$



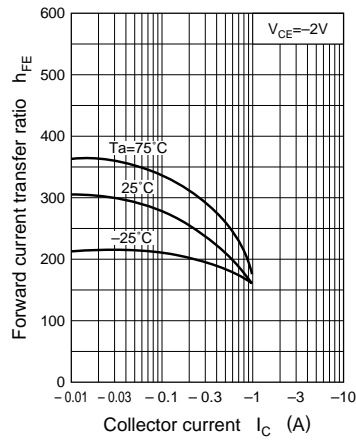
$V_{BE(sat)} - I_C$



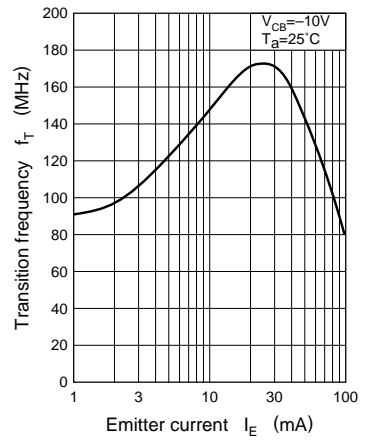
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

