

# 2SB970

## Silicon PNP epitaxial planer type

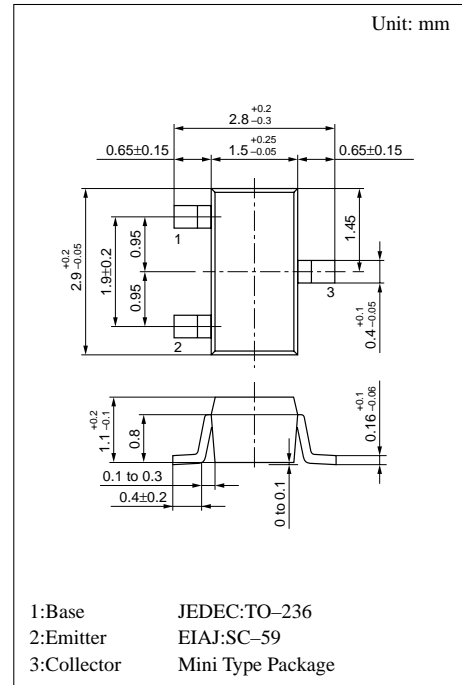
For low-voltage output amplification

### ■ 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

