2SB0970 (2SB970)

Silicon PNP epitaxial planar type

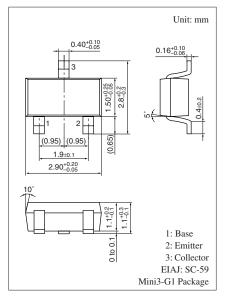
For low-voltage output amplification

■ Features

- Low collector-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 $T_a = 25$ °C

Parameter	Symbol	Rating	Unit	
Collector-base voltage (Emitter open)	V _{CBO}	-15	V	
Collector-emitter voltage (Base open)	V _{CEO}	-10	V	
Emitter-base voltage (Collector open)	V_{EBO}	-7	V	
Collector current	I_C	- 0.5	A	
Peak collector current	I_{CP}	-1	A	
Collector power dissipation	P _C	200	mW	
Junction temperature	T_{j}	150	°C	
Storage temperature	T_{stg}	-55 to +150	°C	



Marking Symbol: 1R

■ Electrical Characteristics $T_a = 25$ °C ± 3 °C

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V _{CBO}	$I_{\rm C} = -10 \; \mu \text{A}, \; I_{\rm E} = 0$	-15			V
Collector-emitter voltage (Base open)	V _{CEO}	$I_C = -1 \text{ mA}, I_B = 0$	-10			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = -10 \ \mu A, \ I_C = 0$	-7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -10 \text{ V}, I_E = 0$			-100	nA
Forward current transfer ratio *1	h _{FE1} *2	$V_{CE} = -2 \text{ V}, I_{C} = -0.5 \text{ A}$	130		350	_
	h _{FE2}	$V_{CE} = -2 \text{ V}, I_{C} = -1 \text{ A}$	60			_
Collector-emitter saturation voltage *1	V _{CE(sat)}	$I_C = -0.4 \text{ A}, I_B = -8 \text{ mA}$		- 0.16	- 0.30	V
Base-emitter saturation voltage *1	V _{BE(sat)}	$I_C = -0.4 \text{ A}, I_B = -8 \text{ mA}$		- 0.8	-1.2	V
Transition frequency	f_T	$V_{CB} = -10 \text{ V}, I_E = 50 \text{ mA}, f = 200 \text{ MHz}$		130		MHz
Collector output capacitance	C _{ob}	$V_{CB} = -10 \text{ V}, I_{E} = 0, f = 1 \text{ MHz}$		22		pF
(Common base, input open circuited)						

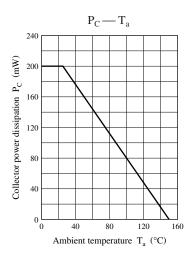
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

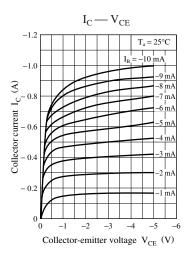
2. *1: Pulse measurement

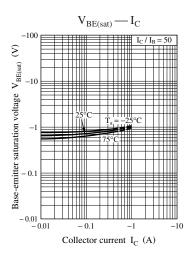
*2: Rank classification

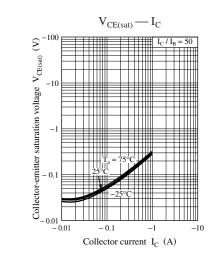
Rank	R	S
$h_{\mathrm{FE}1}$	130 to 220	180 to 350

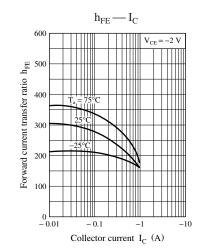
Note) The part number in the parenthesis shows conventional part number.

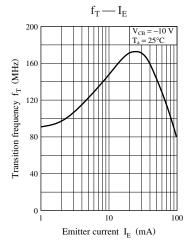


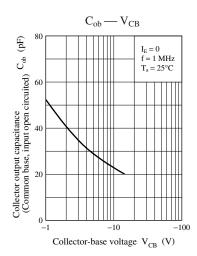












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