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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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# 2SC3935

## Silicon NPN epitaxial planar type

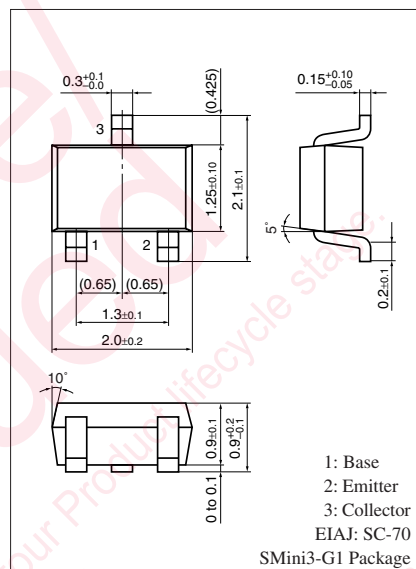
For high-frequency amplification/oscillation/mixing

### ■ Features

- High transition frequency  $f_T$
- Small collector output capacitance (Common base, input open circuited)  $C_{ob}$  and reverse transfer capacitance (Common base)  $C_{rb}$
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing

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

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)	$V_{EBO}$	3	V
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



Marking Symbol: 1S

### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

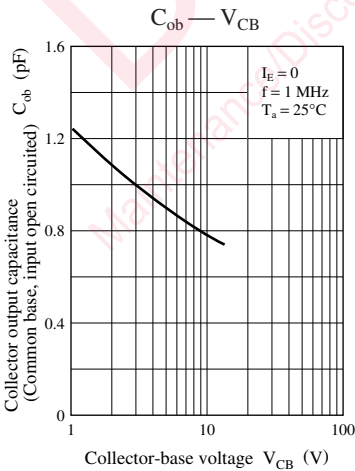
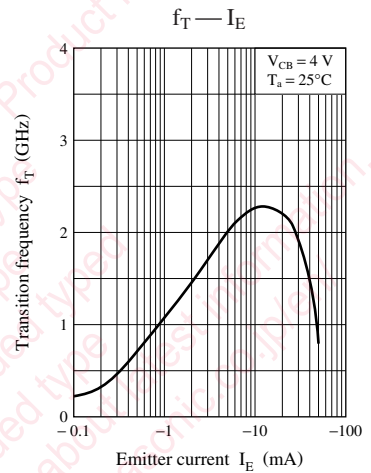
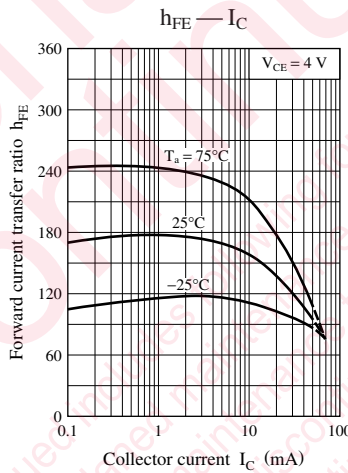
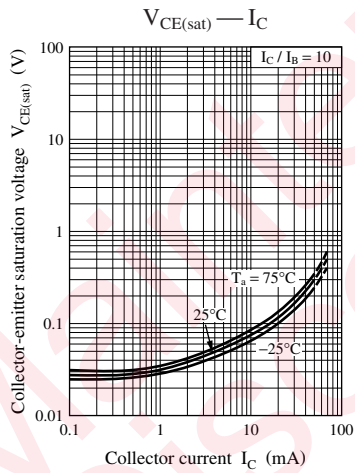
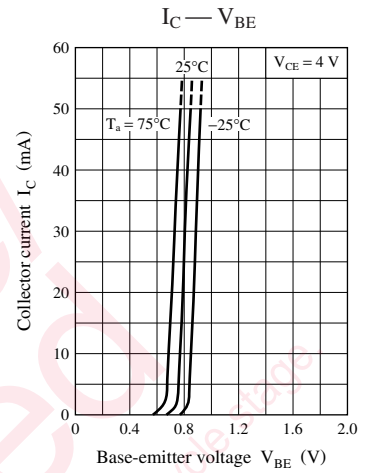
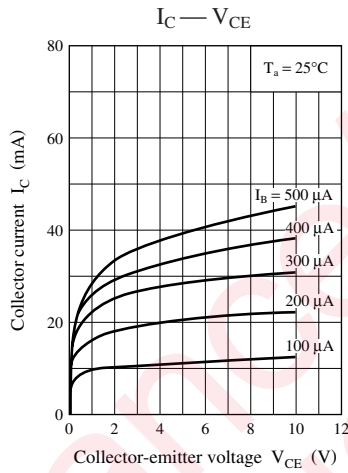
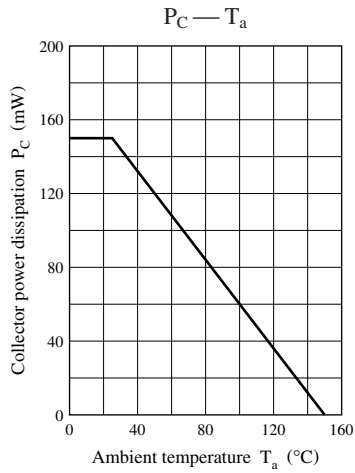
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 2 \text{ mA}, I_B = 0$	10			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	3			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 10 \text{ V}, I_E = 0$			1	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = 10 \text{ V}, I_B = 0$			10	$\mu\text{A}$
Forward current transfer ratio	$h_{FE1}^{*1}$	$V_{CE} = 2.4 \text{ V}, I_C = 7.2 \text{ mA}$	75		220	—
	$h_{FE2}$	$V_{CE} = 2.4 \text{ V}, I_C = 100 \mu\text{A}$	75			
$h_{FE}$ ratio	$\Delta h_{FE}^{*2}$	$h_{FE2}: V_{CE} = 2.4 \text{ V}, I_C = 100 \mu\text{A}$	0.75		1.60	—
		$h_{FE1}: V_{CE} = 2.4 \text{ V}, I_C = 7.2 \text{ mA}$				
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 20 \text{ mA}, I_B = 4 \text{ mA}$			0.5	V
Transition frequency	$f_T$	$V_{CB} = 4 \text{ V}, I_E = -7.2 \text{ mA}, f = 200 \text{ MHz}$	1.4	1.9	2.5	GHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 4 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		0.9	1.1	pF
Reverse transfer capacitance (Common base)	$C_{rb}$	$V_{CB} = 4 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		0.25	0.35	pF
Collector-base parameter	$r_{bb}' \cdot C_C$	$V_{CB} = 4 \text{ V}, I_E = -5 \text{ mA}, f = 31.9 \text{ MHz}$		11.8	13.5	ps

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

2. \*1: Rank classification

Rank	P	Q
$h_{FE}$	75 to 130	110 to 220

\*2:  $\Delta h_{FE} = h_{FE2} / h_{FE1}$



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