

2SC3940, 2SC3940A

Silicon NPN epitaxial planar type

For low-frequency output amplification and driver amplification
Complementary to 2SA1534, 2SA1534A

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Allowing supply with the radial taping

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SC3940 V_{CBO}	30	V
	2SC3940A	60	
Collector-emitter voltage (Base open)	2SC3940 V_{CEO}	25	V
	2SC3940A	50	
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	1	A
Peak collector current	I_{CP}	1.5	A
Collector power dissipation	P_C	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

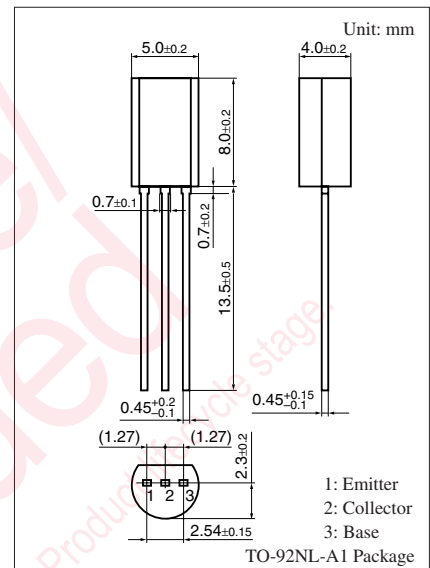
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	2SC3940 V_{CBO}	$I_C = 10\ \mu\text{A}$, $I_E = 0$	30			V
	2SC3940A		60			
Collector-emitter voltage (Base open)	2SC3940 V_{CEO}	$I_C = 2\ \text{mA}$, $I_B = 0$	25			V
	2SC3940A		50			
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu\text{A}$, $I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 20\ \text{V}$, $I_E = 0$			0.1	μA
Forward current transfer ratio *1	h_{FE1} *2	$V_{CE} = 10\ \text{V}$, $I_C = 500\ \text{mA}$	85		340	—
	h_{FE2}	$V_{CE} = 5\ \text{V}$, $I_C = 1\ \text{A}$	50			
Collector-emitter saturation voltage*1	$V_{CE(sat)}$	$I_C = 500\ \text{mA}$, $I_B = 50\ \text{mA}$		0.2	0.4	V
Base-emitter saturation voltage*1	$V_{BE(sat)}$	$I_C = 500\ \text{mA}$, $I_B = 50\ \text{mA}$		0.85	1.20	V
Transition frequency	f_T	$V_{CB} = 10\ \text{V}$, $I_E = -50\ \text{mA}$, $f = 200\ \text{MHz}$		200		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$		11	20	pF

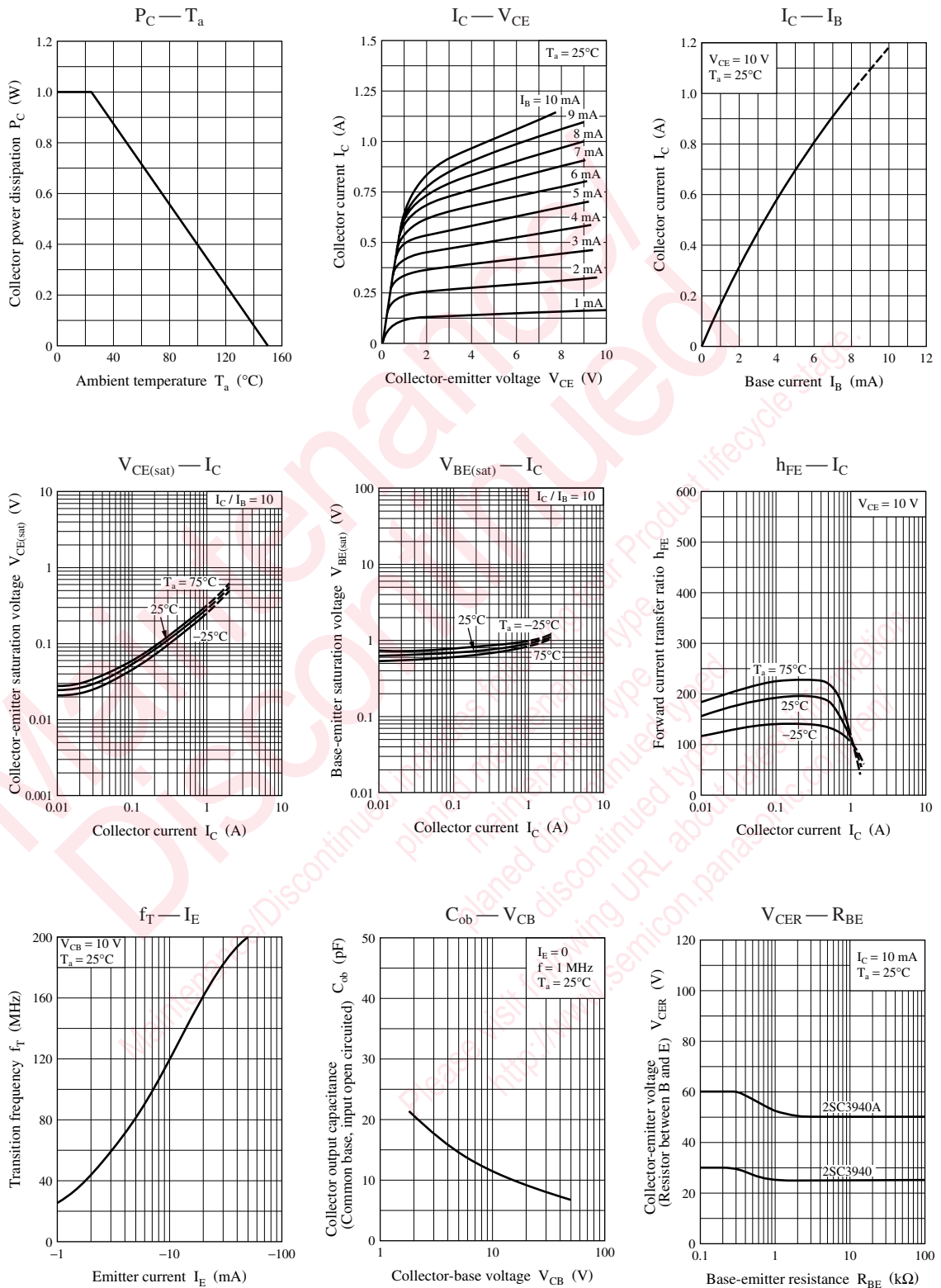
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

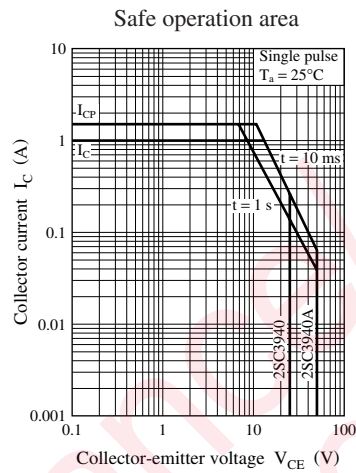
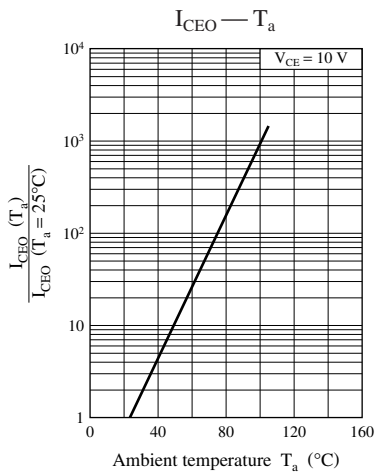
2. *1: Pulse measurement

*2: Rank classification

Rank	Q	R	S
h_{FE1}	85 to 170	120 to 240	170 to 340







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