# 2SC3939

# Silicon NPN epitaxial planar type

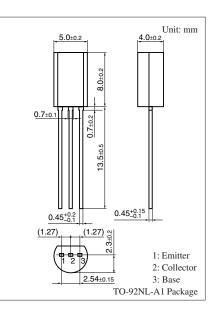
For low-frequency driver amplification Complementary to 2SA1533

#### Features

- $\bullet$  High collector-emitter voltage (Base open)  $V_{\mbox{CEO}}$
- Optimum for the driver stage of a low-frequency and 25 W to 30 W output amplifier
- Allowing supply with the radial taping

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	80	V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	80	V
Emitter-base voltage (Collector open)	V <sub>EBO</sub>	5	V
Collector current	I <sub>C</sub>	0.5	А
Peak collector current	I <sub>CP</sub>	1	А
Collector power dissipation	P <sub>C</sub>	1	W
Junction temperature	Tj	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C



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

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	$I_{\rm C} = 10 \ \mu A, \ I_{\rm E} = 0$	80			V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	$I_{C} = 100 \ \mu A, I_{B} = 0$	80			V
Emitter-base voltage (Collector open)	V <sub>EBO</sub>	$I_E = 10 \ \mu A, I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	I <sub>CBO</sub>	$V_{CB} = 20 V, I_E = 0$			0.1	μΑ
Forward current transfer ratio *1	h <sub>FE1</sub> *2	$V_{CE} = 10 \text{ V}, I_C = 150 \text{ mA}$	130		330	
	h <sub>FE2</sub>	$V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}$	50	100		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	$I_{\rm C} = 300 \text{ mA}, I_{\rm B} = 30 \text{ mA}$		0.2	0.4	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	$I_{\rm C} = 300 \text{ mA}, I_{\rm B} = 30 \text{ mA}$		0.85	1.20	V
Transition frequency	f <sub>T</sub>	$V_{CB} = 10 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		120		MHz
Collector output capacitance	C <sub>ob</sub>	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		11	20	pF
(Common base, input open circuited)						

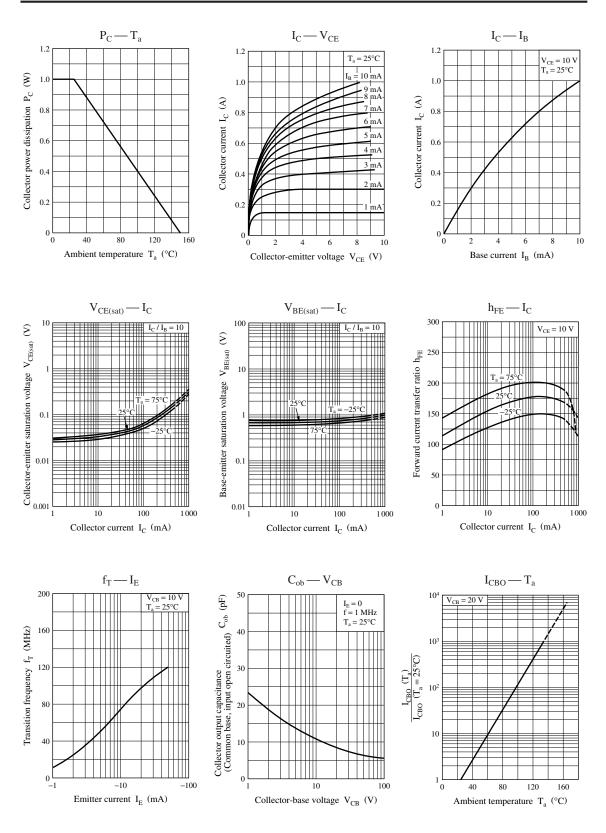
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

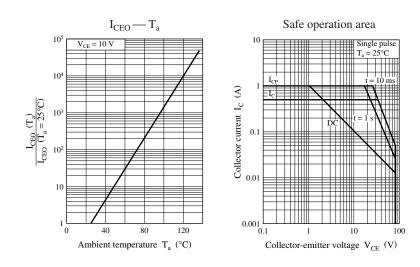
2. \*1: Pulse measurement

\*2: Rank classification

Rank	R	S
h <sub>FE1</sub>	130 to 220	185 to 330

# Panasonic





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