# 2SC5839

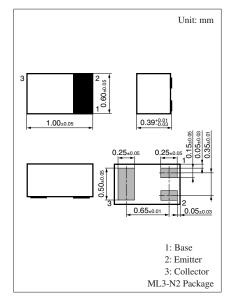
## Silicon NPN epitaxial planar type

For low-voltage high-frequency amplification

## Features

- High transition frequency f<sub>T</sub>
- Suitable for high-density mounting and downsizing of the equipment for Ultraminiature leadless package 0.6 mm × 1.0 mm (height 0.39 mm)

#### Absolute Maximum Ratings $T_a = 25^{\circ}C$ Parameter Symbol Unit Rating Collector-base voltage (Emitter open) 9 V V<sub>CBO</sub> Collector-emitter voltage (Base open) V<sub>CEO</sub> 6 V 2 V Emitter-base voltage (Collector open) V<sub>EBO</sub> 30 Collector current $I_C$ mА Collector power dissipation 100 mW $\mathbf{P}_{\mathbf{C}}$ 125 °C Junction temperature T °C Storage temperature T<sub>stg</sub> -55 to +125

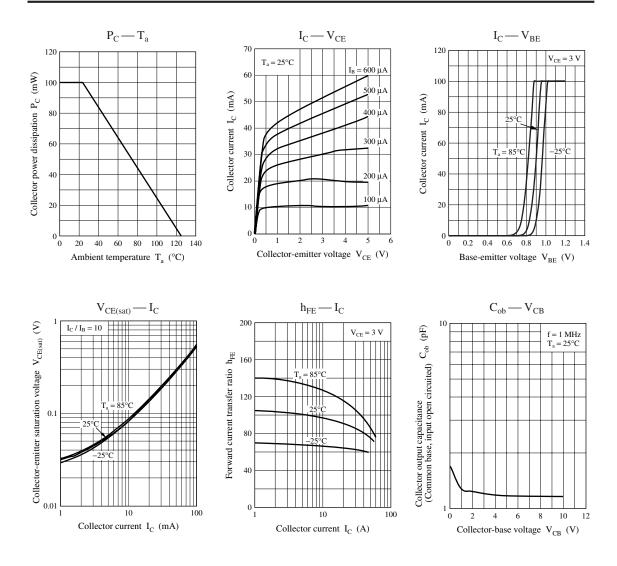


### Marking Symbol: 1N

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

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base cutoff current (Emitter open)	I <sub>CBO</sub>	$V_{CB} = 5 V, I_E = 0$			1	μΑ
Emitter-base cutoff current (Collector open)	I <sub>EBO</sub>	$V_{EB} = 1 V, I_C = 0$			1	μΑ
Forward current transfer ratio	h <sub>FE</sub>	$V_{CE} = 3 V, I_C = 10 mA$	40	100	160	
Transition frequency	f <sub>T</sub>	$V_{CE} = 3 V, I_C = 10 mA, f = 1.5 GHz$		10		GHz
Forward transfer gain	$ S_{21e} ^2$	$V_{CE} = 0.3 \text{ V}, I_C = 1 \text{ mA}, f = 0.9 \text{ GHz}$		6.5		dB
Noise figure	NF	$V_{CE} = 0.3 \text{ V}, I_{C} = 1 \text{ mA}, f = 0.9 \text{ GHz}$		1.7		dB
Collector output capacitance	C <sub>ob</sub>	$V_{CB} = 3 V, I_E = 0, f = 1 MHz$		0.4	0.7	pF
(Common base, input open circuited)						

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



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