

# 2SC5834

## Silicon NPN epitaxial planar type

For high-frequency wide-band low-noise amplification

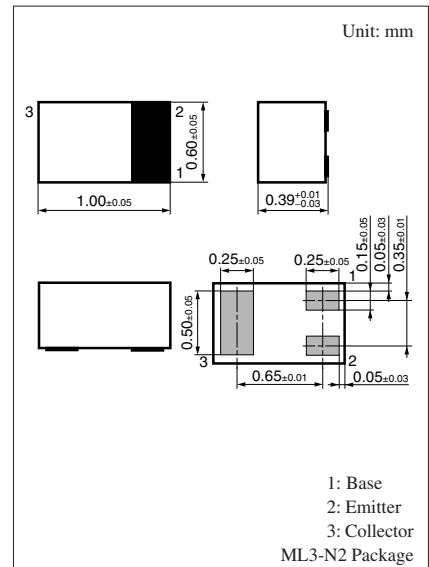
### ■ Features

- High transition frequency ( $f_T$ )
- Suitable for high-density mounting and downsizing of the equipment for ultraminiature leadless package.

Package: 0.6 mm × 1.0 mm (high 0.39 mm)

### ■ 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)	$V_{CEO}$	12	V
Emitter-base voltage (Collector open)	$V_{EBO}$	2.5	V
Collector current	$I_C$	30	mA
Peak collector current	$I_{CP}$	50	mA
Collector power dissipation	$P_C$	100	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$



Marking Symbol: 1H

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 10\text{ V}, I_E = 0$			100	nA
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = 2\text{ V}, I_C = 0$			1	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$	40			—
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 10\text{ mA}, f = 0.8\text{ GHz}$		4.5		GHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$			1.2	pF
Forward transfer gain	$ S_{21e} ^2$	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA}, f = 0.8\text{ GHz}$	9	12		dB
Maximum unilateral power gain	$G_{UM}$	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA}, f = 0.8\text{ GHz}$	12	14		dB
Noise figure	NF	$V_{CE} = 10\text{ V}, I_C = 5\text{ mA}, f = 0.8\text{ GHz}$		1.3	2.5	dB

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

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