

# 2SC4835

## Silicon NPN epitaxial planar type

For UHF band low-noise amplification

### ■ Features

- Low noise figure NF
- High forward transfer gain  $|S_{21e}|^2$
- High transition frequency  $f_T$
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	15	V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	10	V
Emitter-base voltage (Collector open)	$V_{\text{EBO}}$	2	V
Collector current	$I_{\text{C}}$	80	mA
Collector power dissipation	$P_{\text{C}}$	150	mW
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$

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

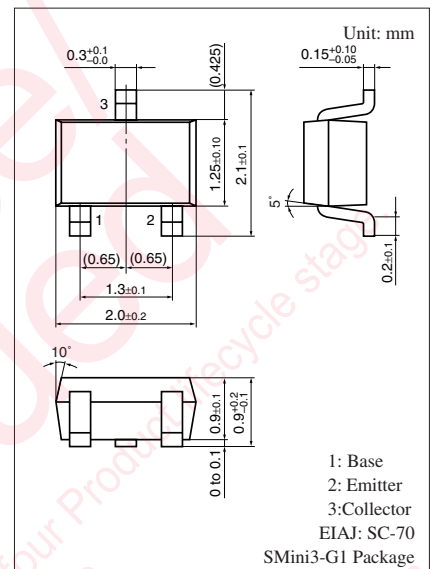
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	$I_{\text{C}} = 10 \mu\text{A}, I_{\text{E}} = 0$	15			V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	$I_{\text{C}} = 100 \mu\text{A}, I_{\text{B}} = 0$	10			V
Collector-base cutoff current (Emitter open)	$I_{\text{CBO}}$	$V_{\text{CB}} = 10 \text{V}, I_{\text{E}} = 0$			1	$\mu\text{A}$
Emitter-base cutoff current (Collector open)	$I_{\text{EBO}}$	$V_{\text{EB}} = 2 \text{V}, I_{\text{C}} = 0$			1	$\mu\text{A}$
Forward current transfer ratio <sup>*1,2</sup>	$h_{\text{FE}}$	$V_{\text{CE}} = 8 \text{V}, I_{\text{C}} = 20 \text{mA}$	50		200	—
Transition frequency	$f_{\text{T}}$	$V_{\text{CE}} = 8 \text{V}, I_{\text{C}} = 15 \text{mA}, f = 800 \text{MHz}$	5	6		GHz
Collector output capacitance (Common base, input open circuited)	$C_{\text{ob}}$	$V_{\text{CB}} = 10 \text{V}, I_{\text{E}} = 0, f = 1 \text{MHz}$		0.7	1.2	pF
Forward transfer gain	$ S_{21e} ^2$	$V_{\text{CE}} = 8 \text{V}, I_{\text{C}} = 15 \text{mA}, f = 800 \text{MHz}$	11	14		dB
Maximum unilateral power gain	$G_{\text{UM}}$	$V_{\text{CE}} = 8 \text{V}, I_{\text{C}} = 15 \text{mA}, f = 800 \text{MHz}$		15		dB
Noise figure	NF	$V_{\text{CE}} = 8 \text{V}, I_{\text{C}} = 7 \text{mA}, f = 800 \text{MHz}$		1.3	2.0	dB

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

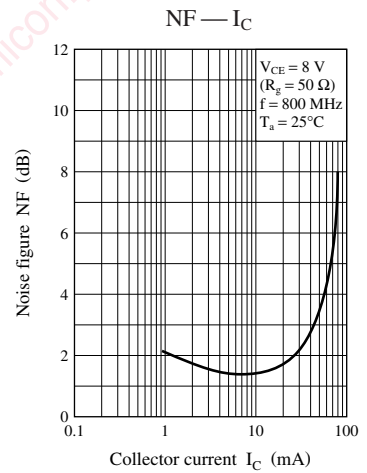
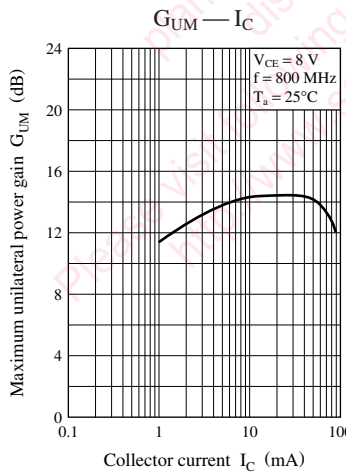
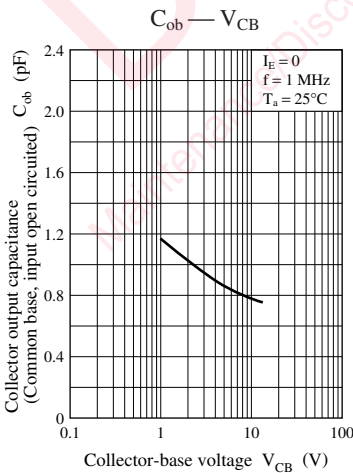
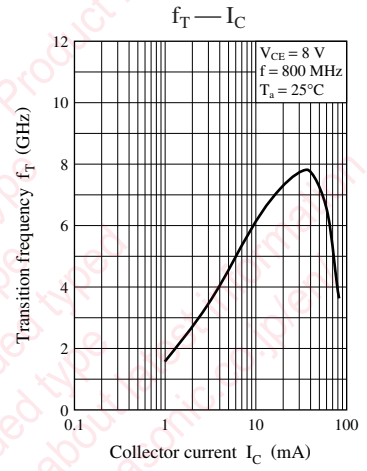
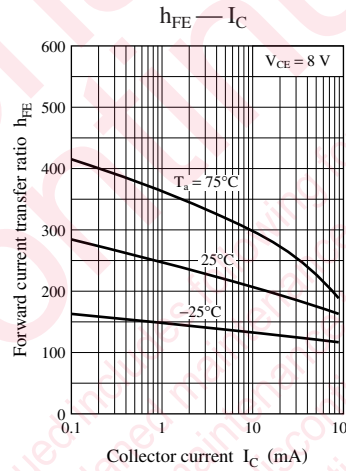
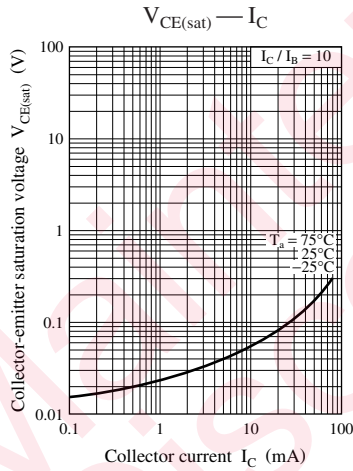
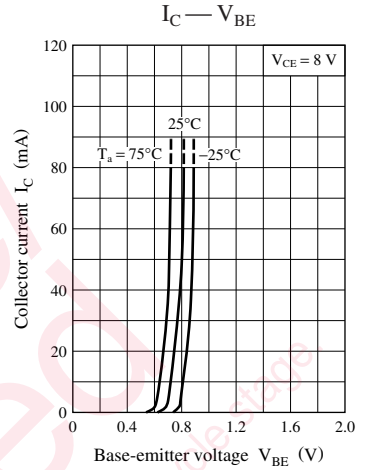
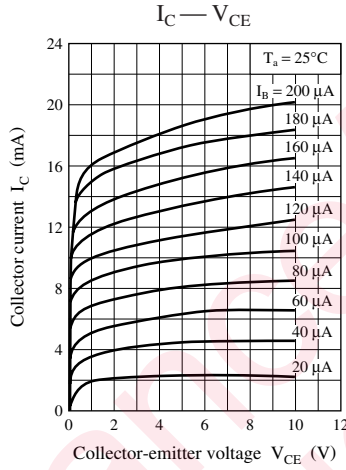
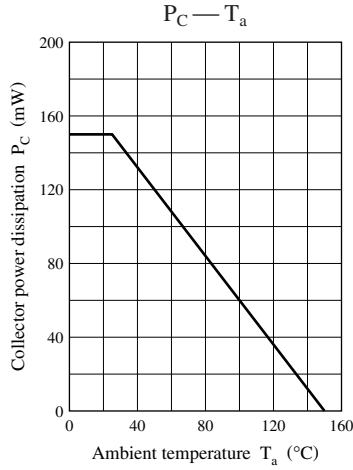
2. \*1: Pulse measurement

\*2: Rank classification

Rank	Q	R	S
$h_{\text{FE}}$	50 to 100	80 to 130	100 to 200



Marking Symbol: 3M



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