

# 2SA1309, 2SA1309A

## Silicon PNP Epitaxial Planar Type

For low-frequency amplification

Complementary pair with 2SC3311 and 2SC3311A

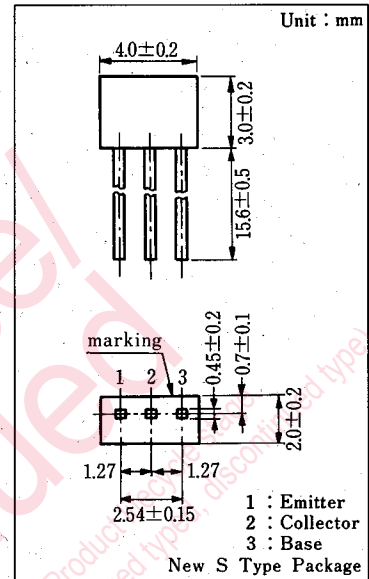
### ■ Features

- High DC current gain  $h_{FE}$
- Automatic insertion by radial tapering possible

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

Item	Symbol	Value	Unit
Collector-Base Voltage	2SA1309	-30	V
	2SA1309A	-60	
Collector-Emitter Voltage	2SA1309	-25	V
	2SA1309A	-50	
Emitter-Base Voltage	$V_{EBO}$	-7	V
Peak Collector Voltage	$I_{CP}$	-200	mA
Collector Current	$I_C$	-100	mA
Collector Power Dissipation	$P_C$	300	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$

### ■ Package Dimensions

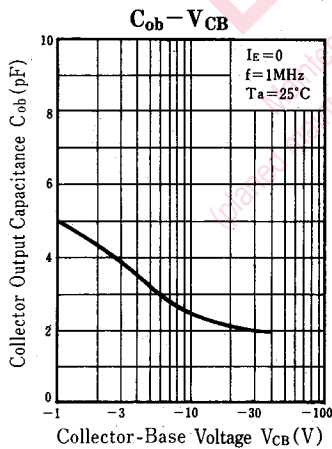
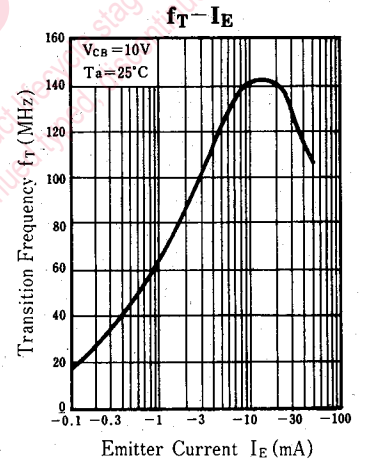
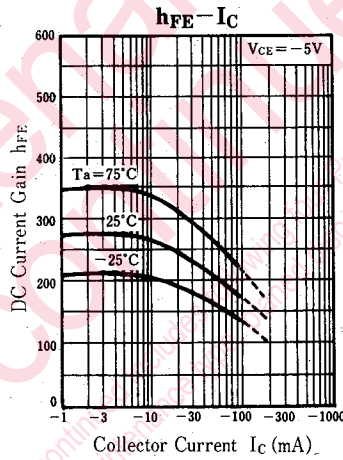
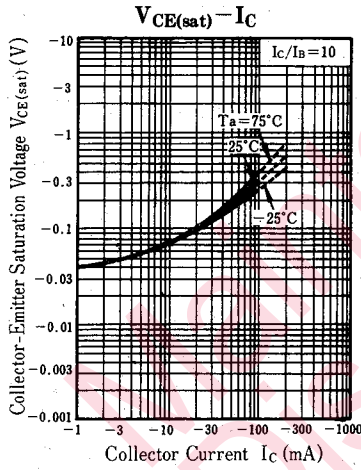
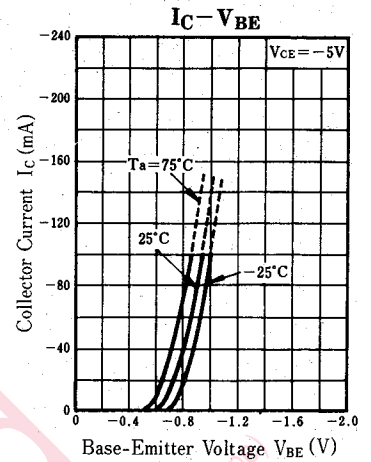
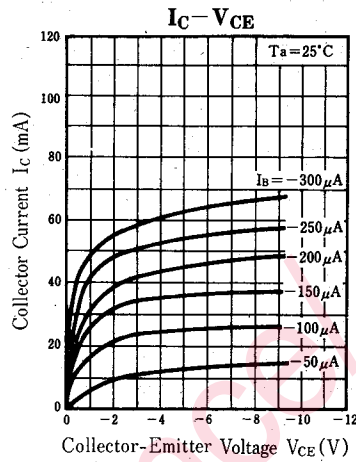
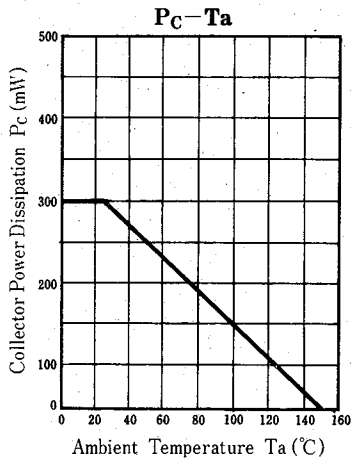


### ■ Electrical Characteristics ( $T_a=25^\circ\text{C}$ )

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = -10\text{ V}, I_E = 0$			-100	nA
	$I_{CEO}$	$V_{CE} = -10\text{ V}, I_B = 0$			-1	$\mu\text{A}$
Collector-Base Voltage	$V_{CBO}$	$I_C = -10\ \mu\text{A}, I_E = 0$	-30			V
			-60			
Collector-Emitter Voltage	$V_{CEO}$	$I_C = -2\text{ mA}, I_B = 0$	-25			V
			-50			
Emitter-Base Voltage	$V_{EBO}$	$I_E = -10\ \mu\text{A}, I_C = 0$	-7			V
DC Current Gain	$h_{FE}^*$	$V_{CE} = -10\text{ V}, I_C = -2\text{ mA}$	160		460	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -50\text{ mA}, I_B = -5\text{ mA}$			-0.3	V
Transition Frequency	$f_T$	$V_{CB} = -10\text{ V}, I_E = 1\text{ mA}, f = 200\text{ MHz}$		80		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$		3.5		pF

\* $h_{FE}$  Ranking

Rank	Q	R	S
$h_{FE}$	160 ~ 260	210 ~ 340	290 ~ 460



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