



# 2SB815 / 2SD1048

## General-Purpose AF Amplifier Applications

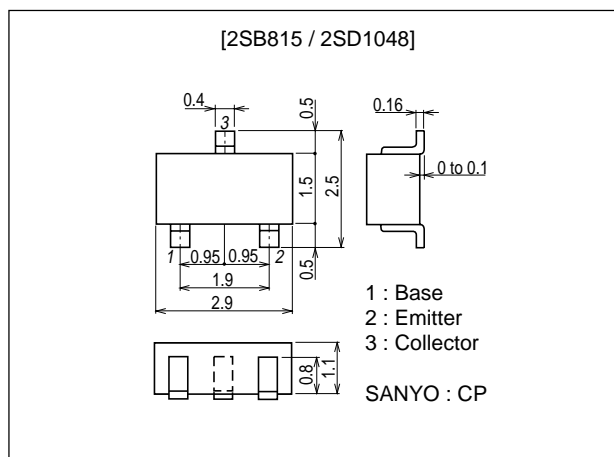
### Features

- Ultrasmall package allows miniaturization in end products.
- Large current capacity ( $I_C=0.7A$ ) and low-saturation voltage.

### Package Dimensions

unit : mm

2018B



### Specifications

( ) : 2SB815

Absolute Maximum Ratings at  $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-)20	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)15	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)5	V
Collector Current	$I_C$		(-)0.7	A
Collector Current (Pulse)	$I_{CP}$		(-)1.5	A
Collector Dissipation	$P_C$		200	mW
Junction Temperature	$T_J$		125	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +125	$^\circ C$

### Electrical Characteristics at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=-15V, I_E=0$			(-)0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-4V, I_C=0$			(-)0.1	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE}=-2V, I_C=-50mA$	(200*)200*		(600*)900*	
	$h_{FE2}$	$V_{CE}=-2V, I_C=-500mA$	80			

\* : The 2SB815, 2SD1048 are classified by 50mA  $h_{FE}$  as follows :

Continued on next page.

2SB815	200	<b>B6</b>	400	300	<b>B7</b>	600		
2SD1048	200	<b>X6</b>	400	300	<b>X7</b>	600	450	<b>X8</b> 900

Note : Marking : B (2SB815), X (2SD1048)

$h_{FE}$  rank : 6, 7 (2SB815), 6, 7, 8 (2SD1048)

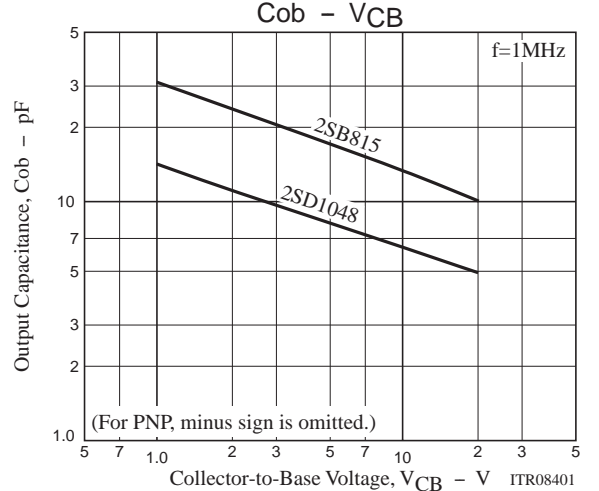
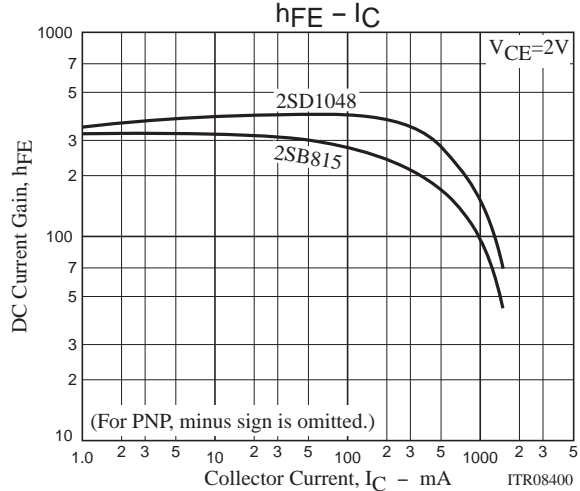
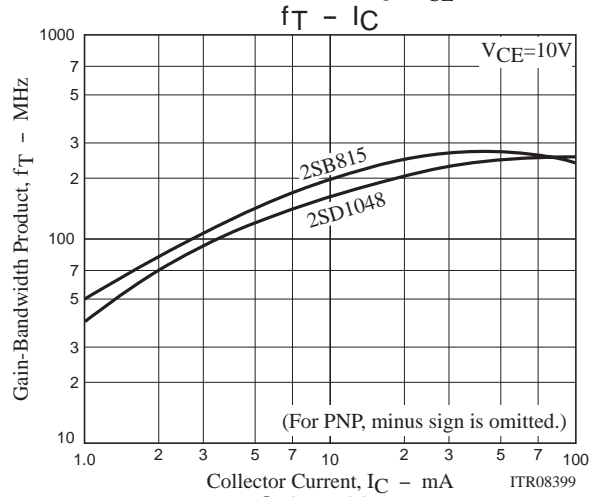
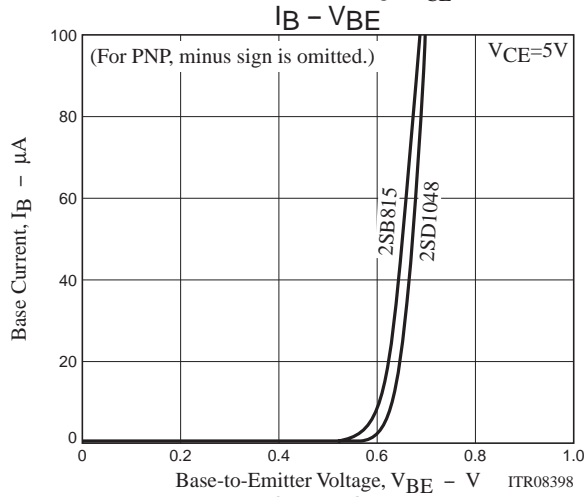
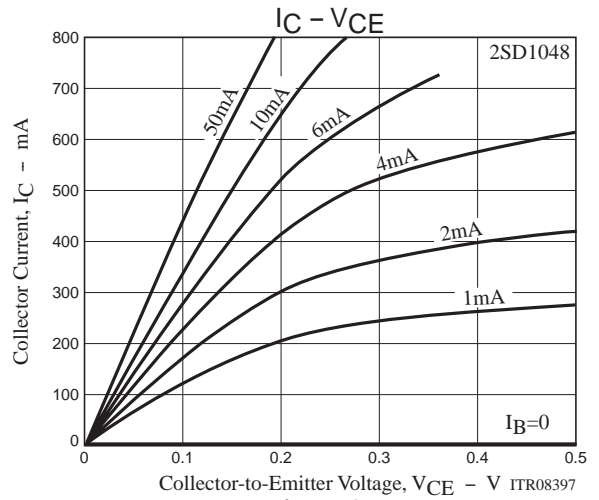
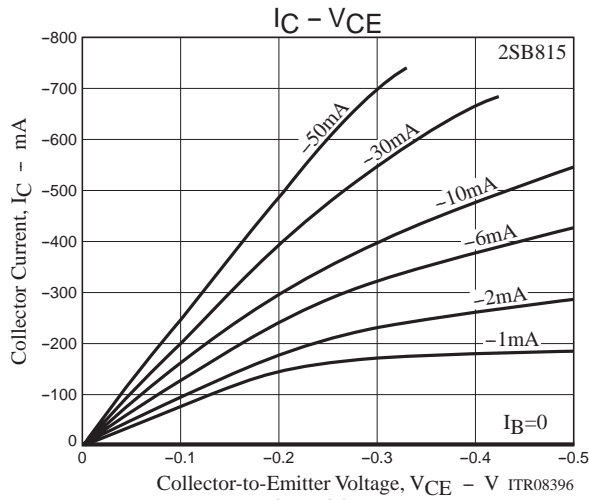
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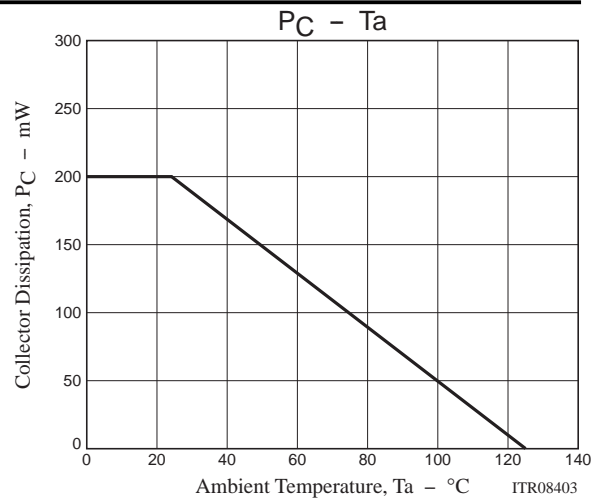
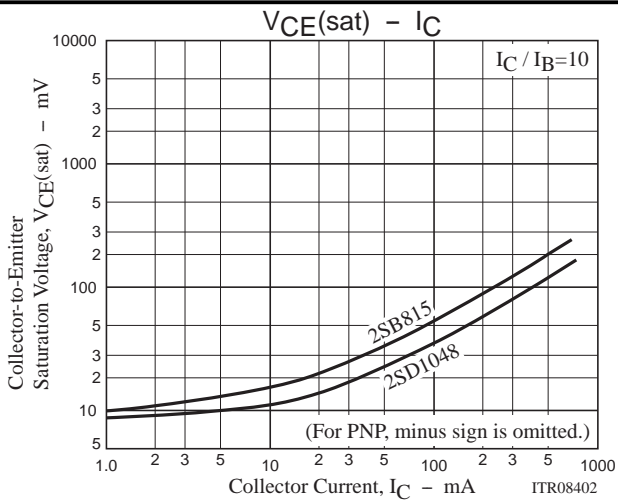
## 2SB815 / 2SD1048

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10V, I_C=(-)50mA$		250		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=(-)10V, f=1MHz$		(13)8		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=(-)5mA, I_B=(-)0.5mA$		(-15)10	(-35)25	mV
	$V_{CE(sat)2}$	$I_C=(-)100mA, I_B=(-)10mA$		(-60)30	(-120)80	mV



## 2SB815 / 2SD1048



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