

<b>SANYO</b>	No. 694E	<b>2SB815/2SD1048</b>
	Silicon (PNP/NPN) Epitaxial Planar Transistors For General-Purpose AF Amplifier	

**Features**

- Very small package enabling compactness and slimness of sets
- Large current capacity ( $I_C = 0.7A$ ) and low saturation voltage

( ) : 2SB815

**Absolute Maximum Ratings/ $T_a = 25^\circ C$**

			unit
Collector to base voltage	$V_{CBO}$	(-) $20$	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	$T_{stg}$	$-55 \sim +125$	$^\circ C$

**Electrical Characteristics/ $T_a = 25^\circ C$**

			min	typ	max	unit
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	$h_{FE}(1)$	$V_{CE} = (-)2V, I_C = (-)50 \text{ mA}$	$200^*$		$900^*$	
			( $200^*$ )		( $600^*$ )	
	$h_{FE}(2)$	$V_{CE} = (-)2V, I_C = (-)500 \text{ mA}$	$80$			
Gain band-width product	$f_T$	$V_{CE} = (-)10V, I_C = (-)50 \text{ mA}$		$250$		MHz
Output capacitance	$C_{ob}$	$V_{CB} = (-)10V, f = 1 \text{ MHz}$		( $13$ )		pF
				$8$		pF
Collector to emitter saturation voltage	$V_{CE(sat)}(1)$	$I_C = (-) 5 \text{ mA}, I_B = (-) 0.5 \text{ mA}$		(-) $15$	(-) $35$	mV
				$10$	$25$	mV
	$V_{CE(sat)}(2)$	$I_C = (-) 100 \text{ mA}, I_B = (-) 10 \text{ mA}$		(-) $60$	(-) $120$	mV
				$30$	$80$	mV

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

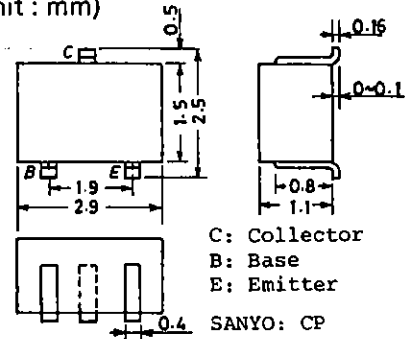
2SB815	200	6	400	300	7	600			
2SD1048	200	6	400	300	7	600	450	8	900

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

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

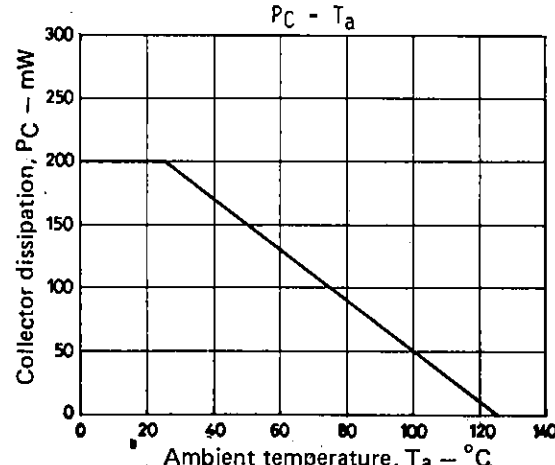
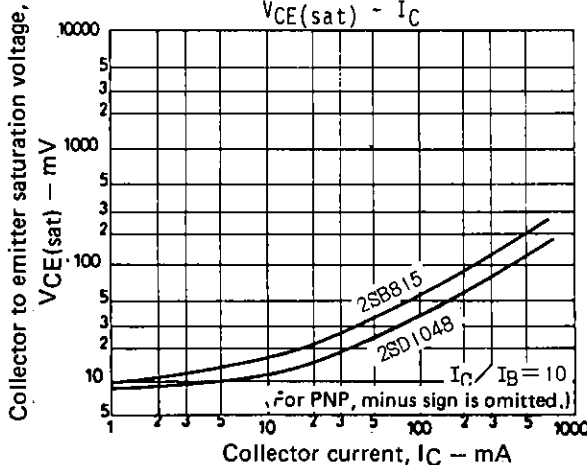
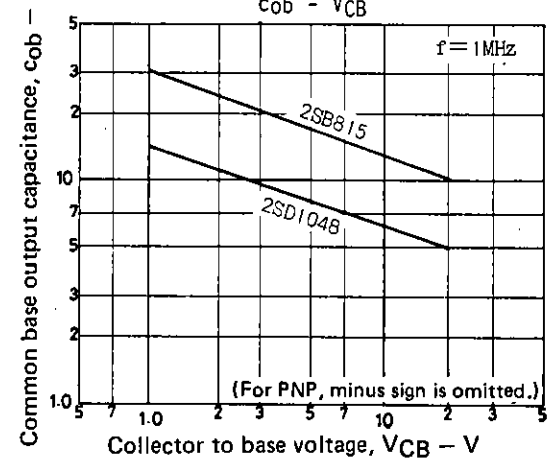
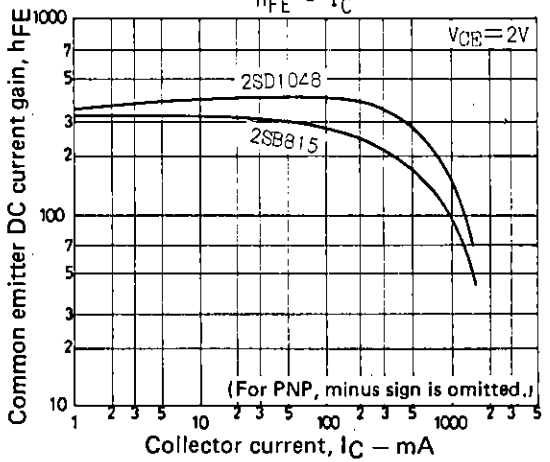
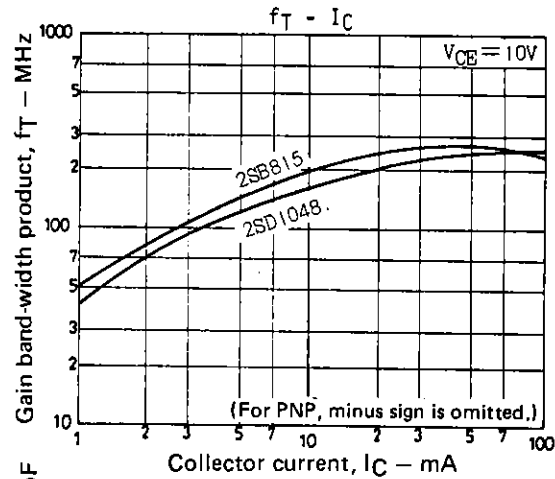
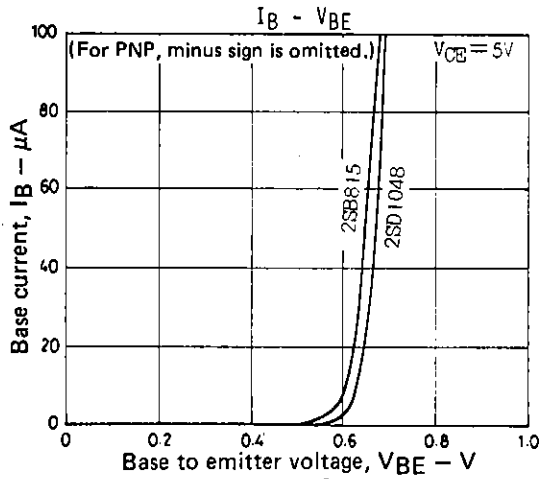
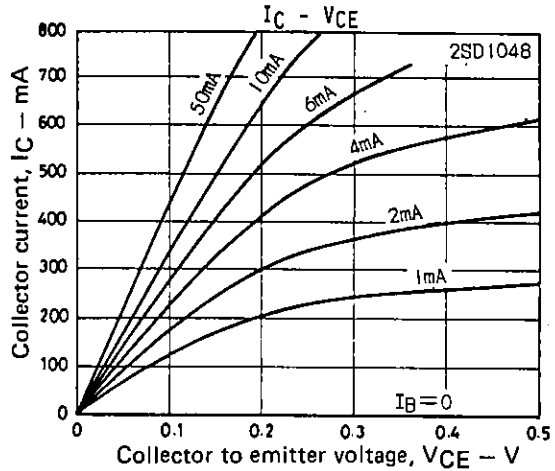
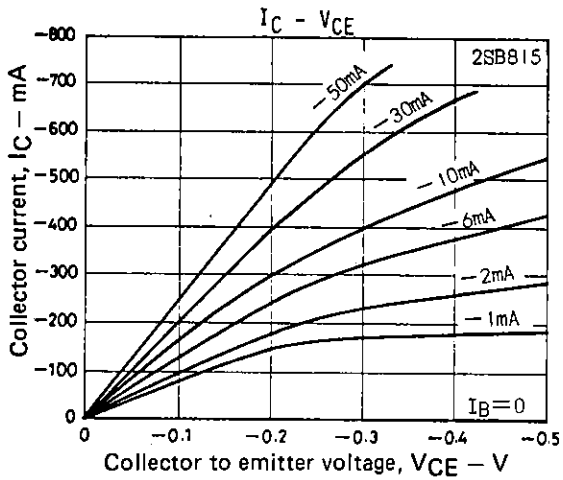
**Package Dimensions 2018A**

(unit: mm)



C: Collector  
B: Base  
E: Emitter  
SANYO: CP

2SB815/2SD1048



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