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| SANYO | No. 694E | 2SB815/2SD1048 |
| | 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 | μA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = (-)4V, I_C = 0$ | | | (-) 0.1 | μA |
| 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:

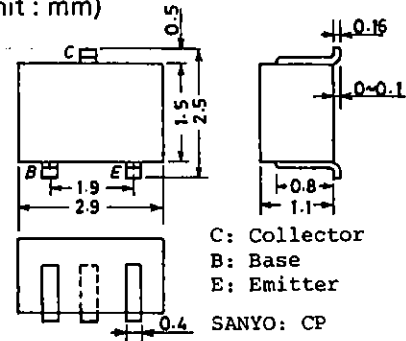
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|---------|-----|---|-----|-----|---|-----|-----|---|-----|
| 2SB815 | 200 | 6 | 400 | 300 | 7 | 600 | | | |
| 2SD1048 | 200 | 6 | 400 | 300 | 7 | 600 | 450 | 8 | 900 |

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

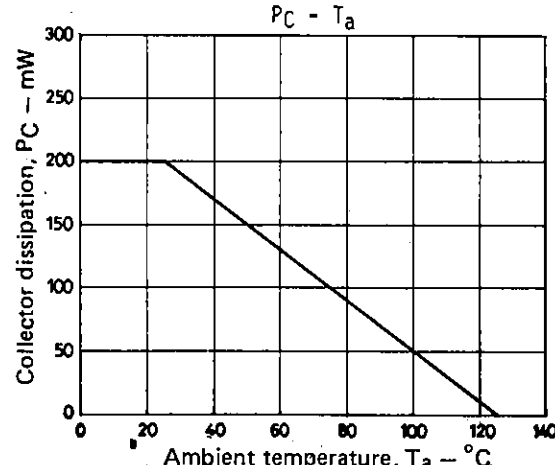
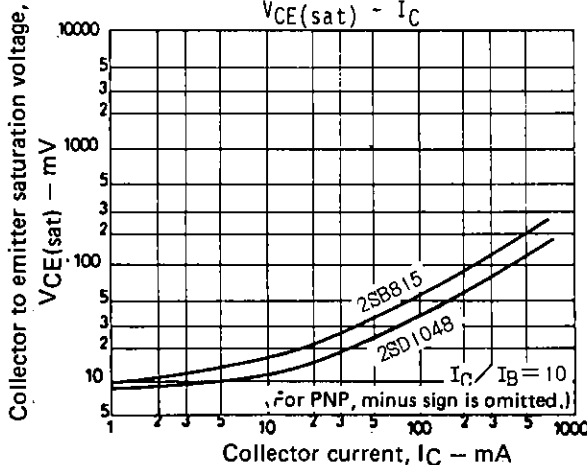
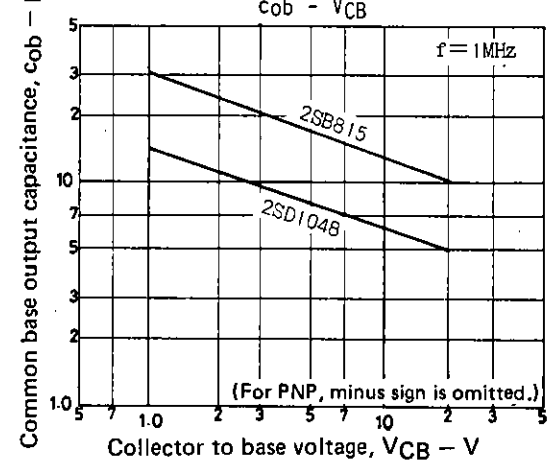
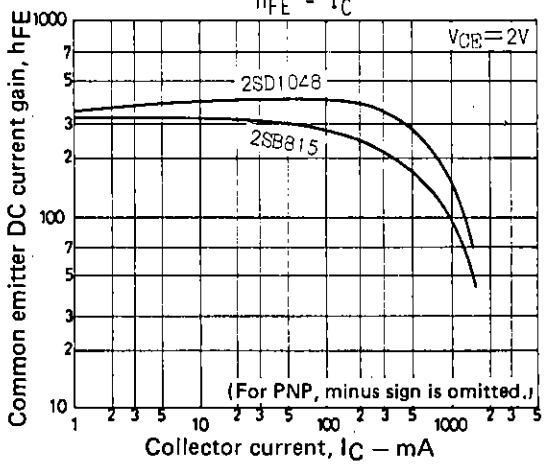
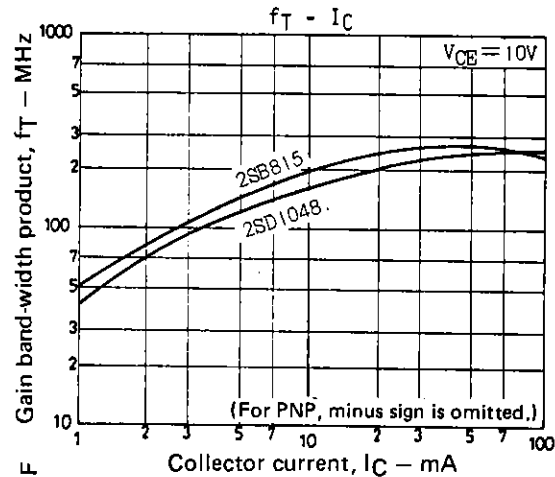
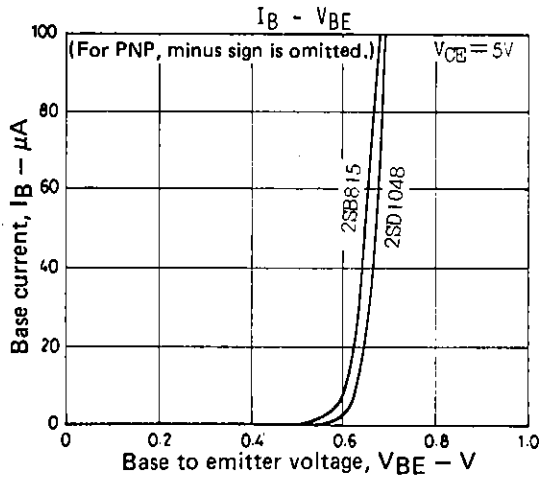
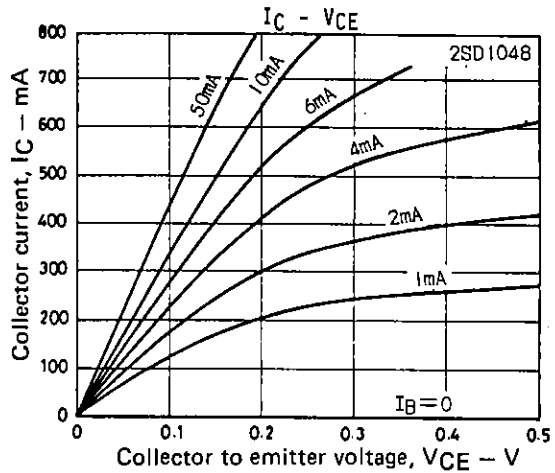
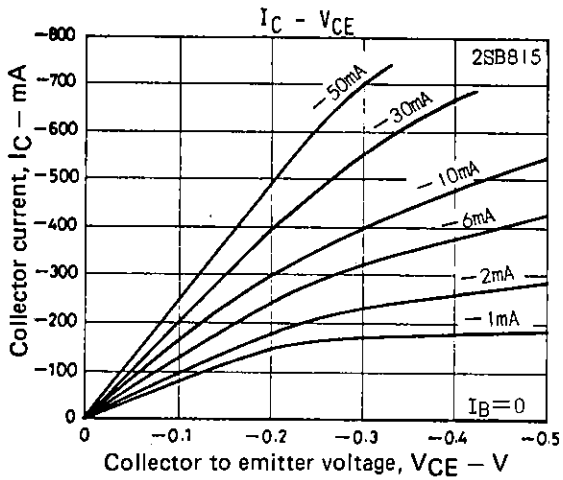
h_{FE} rank: 6,7 (2SB815), 6,7,8 (2SD1048)

Package Dimensions 2018A

(unit: mm)



2SB815/2SD1048



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