

# 2SA748

## Silicon PNP Epitaxial Planar Type

Medium Power Amplifier  
Complementary Pair with 2SC1398

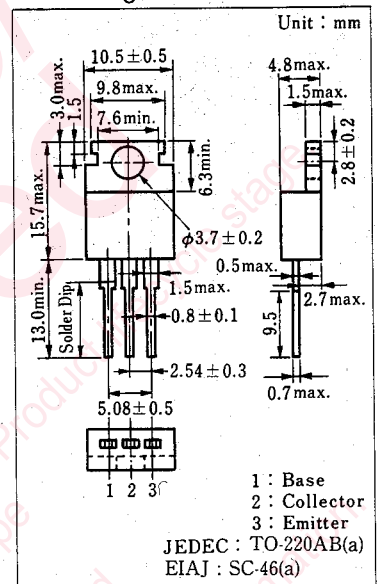
### ■ Features

- Large collector power dissipation ( $P_C$ )
- 10W output in complementary pair with 2SC1398

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

| Item   | Symbol    | Value      | Unit             |
|--|-----------|------------|------------------|
| Collector-base voltage                                 | $V_{CB0}$ | -70        | V                |
| Collector-emitter voltage                              | $V_{CE0}$ | -50        | V                |
| Emitter-base voltage                                   | $V_{EB0}$ | -5         | V                |
| Peak collector current                                 | $I_{CP}$  | -3         | A                |
| Collector current                                      | $I_C$     | -2         | A                |
| Collector power dissipation ( $T_c=25^\circ\text{C}$ ) | $P_C$     | 15         | W                |
| Junction temperature                                   | $T_j$     | 150        | $^\circ\text{C}$ |
| Storage temperature                                    | $T_{stg}$ | -55 ~ +150 | $^\circ\text{C}$ |

### ■ Package Dimensions

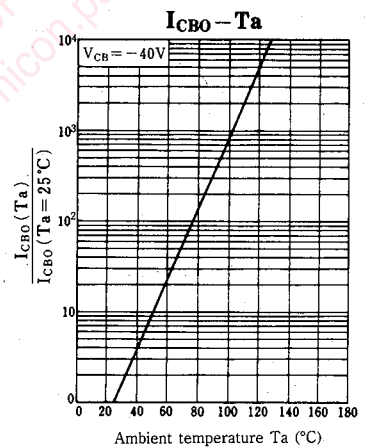
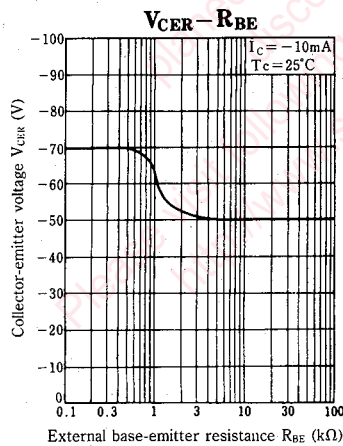
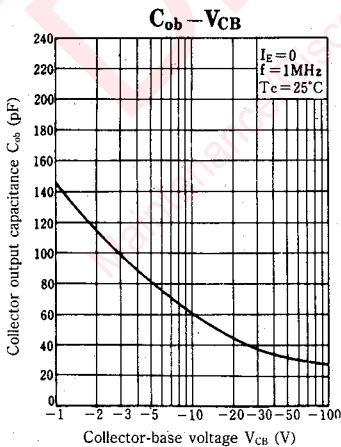
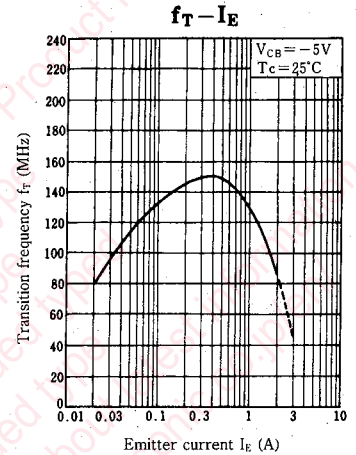
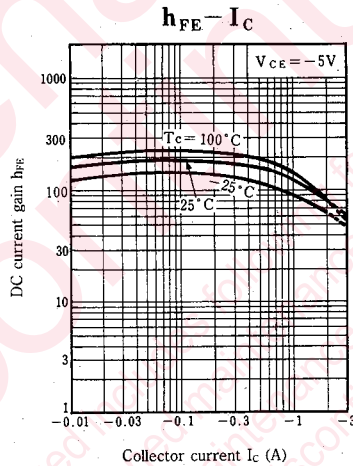
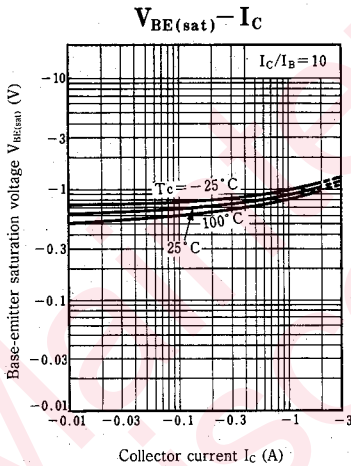
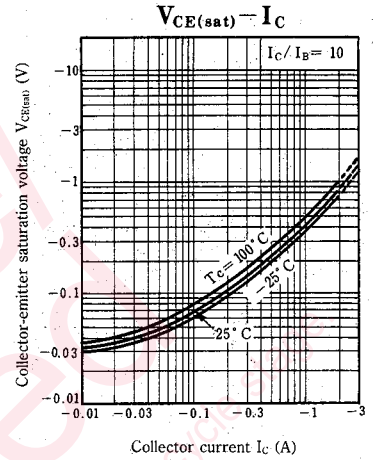
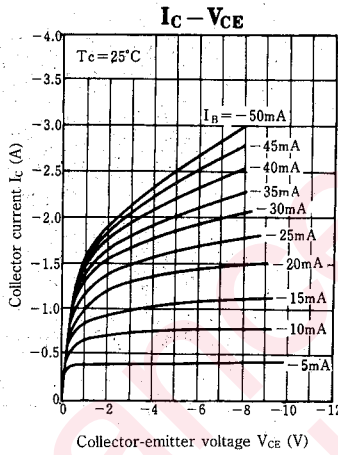
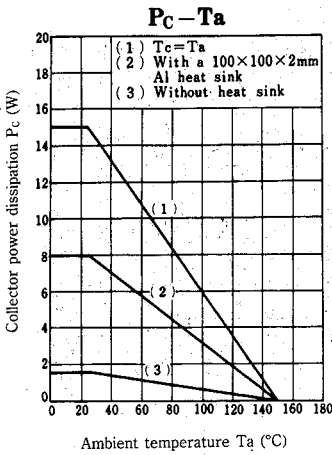


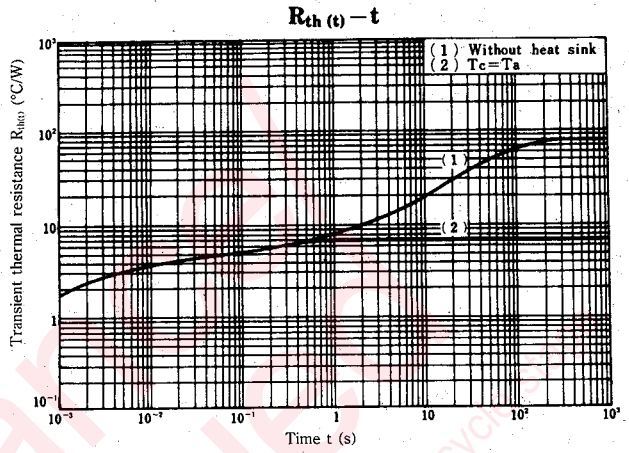
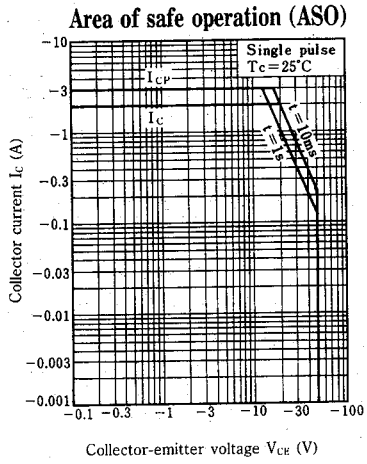
### ■ Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

| Item                                 | Symbol        | Condition  | min. | typ. | max. | Unit          |
|--------------------------------------|---------------|--|------|------|------|---------------|
| Collector cutoff current             | $I_{CB0}$     | $V_{CB} = -40\text{V}, I_E = 0$                            |      |      | -1   | $\mu\text{A}$ |
|                                      | $I_{CE0}$     | $V_{CE} = -20\text{V}, I_B = 0$                            |      |      | -100 |               |
| Collector-base voltage               | $V_{CB0}$     | $I_C = -1\text{mA}, I_E = 0$                               | -70  |      |      | V             |
| Collector-emitter voltage            | $V_{CE0}$     | $I_C = -10\text{mA}, I_B = 0$                              | -50  |      |      | V             |
| Emitter cutoff current               | $I_{EB0}$     | $V_{EB} = -5\text{V}, I_C = 0$                             |      |      | -100 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE1}$     | $V_{CE} = -5\text{V}, I_C = -100\text{mA}$                 | 30   |      |      |               |
|                                      | $h_{FE2}^*$   | $V_{CE} = -5\text{V}, I_C = -1\text{A}$                    | 30   | 130  | 220  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -2\text{A}, I_B = -0.2\text{A}$                     |      | -0.6 | -1.0 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = -2\text{A}, I_B = -0.2\text{A}$                     |      | -1.0 | -1.5 | V             |
| Transition frequency                 | $f_T$         | $V_{CB} = -5\text{V}, I_E = 0.5\text{A}, f = 10\text{MHz}$ |      | 120  |      | MHz           |

#### \* $h_{FE2}$ Classifications

| Class     | P        | Q        | R         |
|-----------|----------|----------|-----------|
| $h_{FE2}$ | 50 ~ 100 | 80 ~ 160 | 120 ~ 220 |





Maintenance/Discontinued includes following four Product lifecycle  
planned maintenance type  
maintenance type  
planned discontinued type  
discontinued type  
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