

2SD860, 2SD860A

Silicon NPN Triple-Diffused Planar Type

Power Amplifier

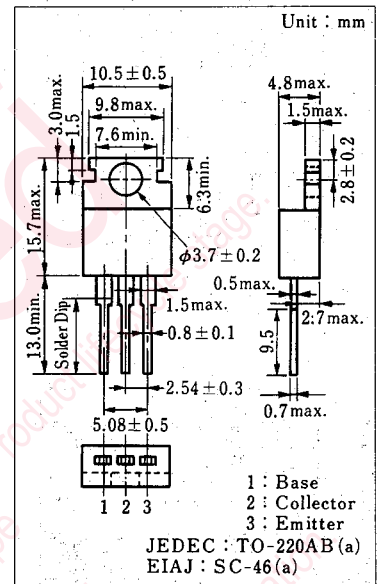
■ Feature

- High collector-base voltage (V_{CBO})

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

| Item | Symbol | Value | Unit |
|-----------------------------|------------------------|------------|------------------|
| Collector-base voltage | 2SD860 | 350 | V |
| | 2SD860A | 400 | |
| Collector-emitter voltage | 2SD860 | 250 | V |
| | 2SD860A | 300 | |
| Emitter-base voltage | V_{EBO} | 5 | V |
| Peak collector current | I_{CP} | 2 | A |
| Collector current | I_C | 1 | A |
| Collector power dissipation | $T_c=25^\circ\text{C}$ | 40 | W |
| | $T_a=25^\circ\text{C}$ | 1.4 | |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 ~ +150 | $^\circ\text{C}$ |

■ Package Dimensions

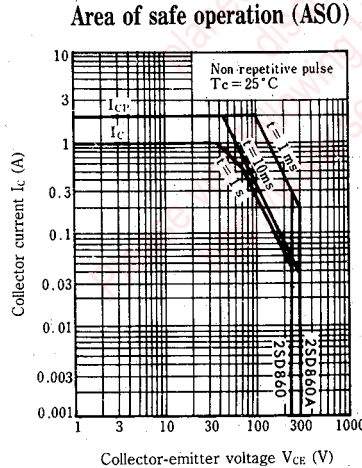
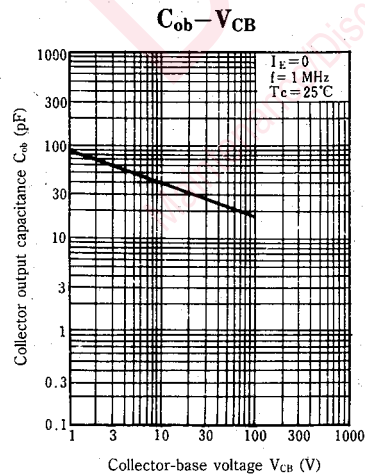
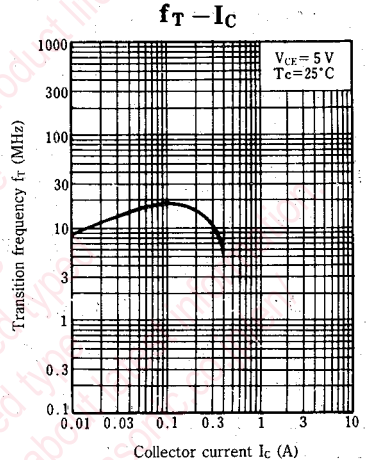
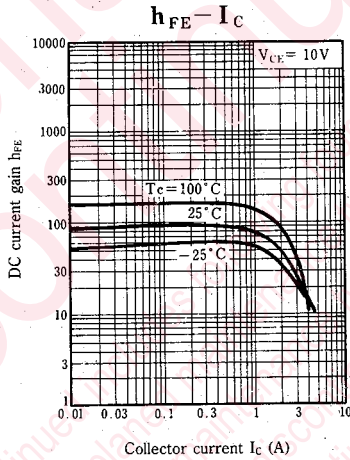
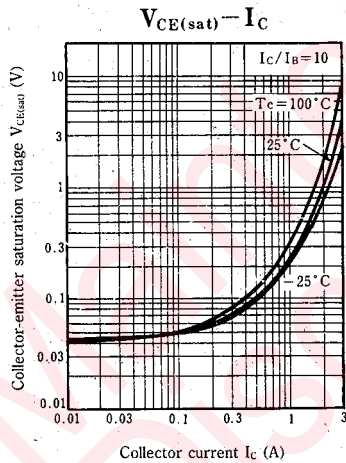
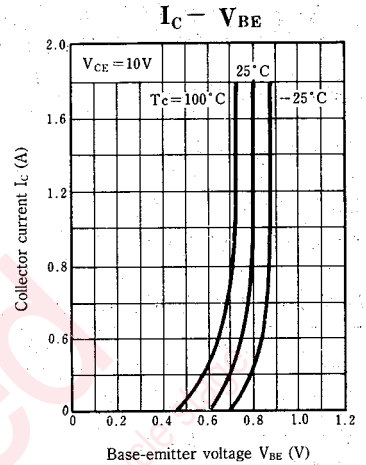
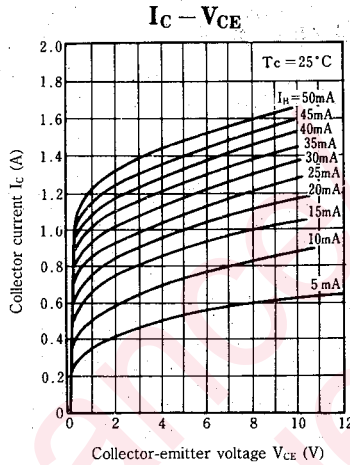
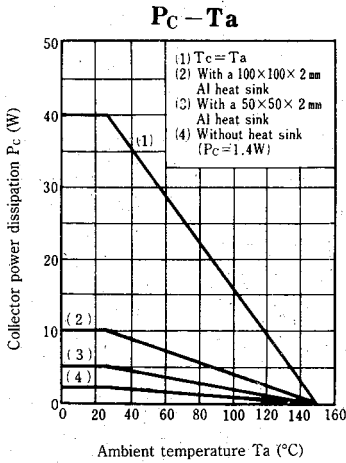


■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

| Item | Symbol | Condition | min. | typ. | max. | Unit |
|--------------------------------------|---------------|---|------|------|------|----------------|
| Collector cutoff current | I_{CEO} | $V_{CE}=150\text{ V}, I_B=0$ | | | 1 | mA |
| | | $V_{CE}=200\text{ V}, I_B=0$ | | | 1 | |
| Collector cutoff current | I_{CES} | $V_{CE}=350\text{ V}, V_{BE}=0$ | | | 1 | mA |
| | | $V_{CE}=400\text{ V}, V_{BE}=0$ | | | 1 | |
| Emitter cutoff current | I_{EBO} | $V_{EB}=5\text{ V}, I_C=0$ | | | 1 | mA |
| Collector-emitter voltage | V_{CEO} | $I_C=30\text{ mA}, I_B=0$ | 250 | | | V |
| | | | 300 | | | |
| DC current gain | h_{FE1} * | $V_{CE}=10\text{ V}, I_C=0.3\text{ A}$ | 40 | | 250 | |
| | h_{FE2} | $V_{CE}=10\text{ V}, I_C=2\text{ A}$ | 10 | | | |
| Base-emitter voltage | V_{BE} | $V_{CE}=10\text{ V}, I_C=2\text{ A}$ | | | 1.5 | V |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=2\text{ A}, I_B=0.4\text{ A}$ | | | 1 | V |
| Transition frequency | f_T | $V_{CE}=5\text{ V}, I_C=0.2\text{ A}, f=1\text{ MHz}$ | | 20 | | MHz |
| Turn-on time | t_{on} | $V_{CC}=50\text{ V}, I_C=2\text{ A}, I_{B1}=0.2\text{ A}, I_{B2}=-0.2\text{ A}$ | | 0.2 | | $\mu\text{ s}$ |
| Turn-off time | t_{off} | | | 2 | | $\mu\text{ s}$ |

* h_{FE1} Classifications

| Class | R | Q | P |
|-----------|---------|----------|-----------|
| h_{FE1} | 40 ~ 90 | 70 ~ 150 | 120 ~ 250 |



Note) Refer to P.620 (on 2SD812/A) for $R_{th(\theta)}$ -t characteristics.

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