

# 2SD1728

## Silicon PNP Triple-Diffused Planar Type

### Horizontal Deflection Output

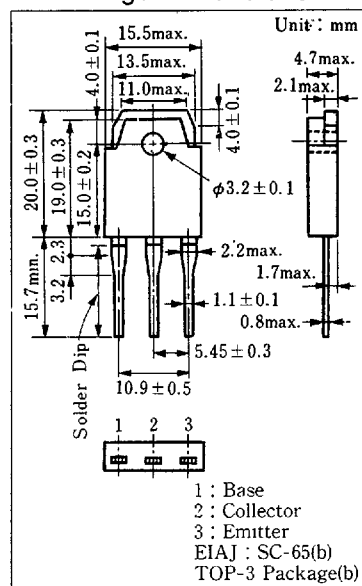
#### ■ Features

- Damper diode built-in
- Minimizes external component counts and simplifies circuitry
- High breakdown voltage, high reliability
- High speed switching
- Wide area of safety operation (ASO)

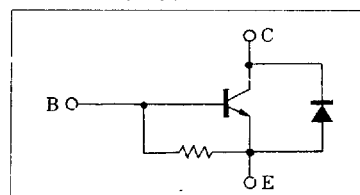
#### ■ Absolute Maximum Ratings (Tc=25°C)

| Item                        | Symbol                                           | Value      | Unit |
|-----------------------------|--------------------------------------------------|------------|------|
| Collector-base voltage      | $V_{CBO}$                                        | 1500       | V    |
| Collector-emitter voltage   | $V_{CES}$                                        | 1500       | V    |
|                             | $V_{CEO}$                                        | 700        | V    |
| Emitter-base voltage        | $V_{EBO}$                                        | 7          | V    |
| Peak collector current      | $I_{CP}$                                         | 7          | A    |
| Collector current           | $I_C$                                            | 2.5        | A    |
| Base current                | $I_B$                                            | 1          | A    |
| Collector power dissipation | $T_c=25^\circ\text{C}$<br>$T_a=25^\circ\text{C}$ | $P_C$      | W    |
|                             |                                                  |            |      |
| Junction temperature        | $T_j$                                            | 150        | °C   |
| Storage temperature         | $T_{stg}$                                        | -55 ~ +150 | °C   |

#### ■ Package Dimensions



#### ■ Inner Circuit



#### ■ Electrical Characteristics (Tc=25°C)

| Item                                 | Symbol        | Condition                                                | min. | typ. | max. | Unit          |
|--------------------------------------|---------------|----------------------------------------------------------|------|------|------|---------------|
| Collector cutoff current             | $I_{CBO}$     | $V_{CB}=750\text{ V}, I_E=0$                             |      |      | 10   | $\mu\text{A}$ |
|                                      |               | $V_{CB}=1500\text{ V}, I_E=0$                            |      |      | 1    | mA            |
| Emitter-base voltage                 | $V_{EBO}$     | $I_E=500\text{ mA}, I_C=0$                               | 7    |      |      | V             |
| DC current gain                      | $h_{FE}$      | $V_{CE}=5\text{ V}, I_C=0.5\text{ A}$                    | 5    |      | 25   |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=2\text{ A}, I_B=0.6\text{ A}$                       |      |      | 8    | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=2\text{ A}, I_B=0.6\text{ A}$                       |      |      | 1.5  | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=10\text{ V}, I_C=0.5\text{ A}, f=0.5\text{ MHz}$ |      | 2    |      | MHz           |
| Storage time (L load)                | $t_{stg}$     | $I_C=2\text{ A}, I_{B1}=0.6\text{ A}$                    |      |      | 7    | $\mu\text{s}$ |
| Fall time (L load)                   | $t_f$         | $I_{B2}=-0.6\text{ A}, L_{leak}=5\mu\text{H}$            |      |      | 0.8  | $\mu\text{s}$ |
| Storage time (R load)                | $t_{stg}$     | $I_C=2\text{ A}, I_{B1}=0.6\text{ A}$                    |      | 1.5  |      | $\mu\text{s}$ |
| Fall time (R load)                   | $t_f$         | $I_{B2}=-1.2\text{ A}, V_{CC}=200\text{ V}$              |      | 0.2  |      | $\mu\text{s}$ |
| Diode forward voltage                | $V_F$         | $I_C=-2.5\text{ A}, I_B=0$                               |      |      | -2   | V             |

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