

# 2SD1439

## Silicon NPN Triple-Diffused Junction Mesa Type

### Horizontal Deflection Output

#### ■ Features

- Damper diode built-in
- High breakdown voltage and high reliability by glass passivation
- High speed switching
- Wide area of safety operation (ASO)

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

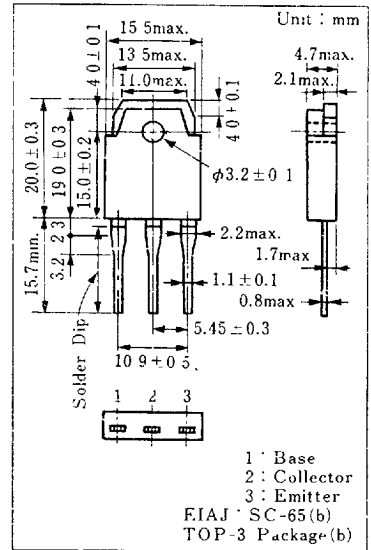
| Item                        | Symbol     | Value      | Unit |   |
|-----------------------------|------------|------------|------|---|
| Collector-base voltage      | $V_{CB0}$  | 1500       | V    |   |
| Collector-emitter voltage   | $V_{CEs}$  | 1500       | V    |   |
| Emitter-base voltage        | $V_{EBO}$  | 5          | V    |   |
| Collector current           | $I_C$      | 3          | A    |   |
| Peak collector current      | $I_{CP}^*$ | 10         | A    |   |
| Peak base current           | $I_{BP}$   | 3.5        | A    |   |
| Reverse peak base current   | $I_{BP}$   | -2.5       | A    |   |
| Collector power dissipation | $P_C$      | Tc = 25°C  | 50   | W |
|                             |            | Ta = 25°C  | 2.5  |   |
| Junction temperature        | $T_J$      | 130        | °C   |   |
| Storage temperature         | $T_{stg}$  | -55 ~ +130 | °C   |   |

\* Non repetitive peak value

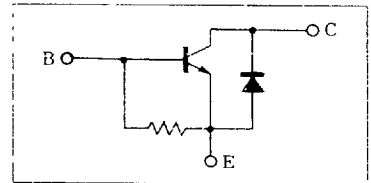
#### ■ Electrical Characteristics (Tc=25°C)

| Item                                 | Symbol        | Condition   | min. | typ. | max. | Unit          |
|--------------------------------------|---------------|---|------|------|------|---------------|
| Collector cutoff current'            | $I_{CBO}$     | $V_{CB} = 750 \text{ V}, I_L = 0$                                 |      |      | 50   | $\mu\text{A}$ |
|                                      |               | $V_{CB} = 1500 \text{ V}, I_F = 0$                                |      |      | 1    | mA            |
| Emitter-base voltage                 | $V_{EBO}$     | $I_F = 500 \text{ mA}, I_C = 0$                                   | 5    |      |      | V             |
| DC current gain                      | $h_{FE}$      | $V_{CE} = 10 \text{ V}, I_C = 2 \text{ A}$                        | 4    |      | 12   |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 2 \text{ A}, I_B = 0.75 \text{ A}$                         |      |      | 5    | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = 2 \text{ A}, I_B = 0.75 \text{ A}$                         |      |      | 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           |
| Fall time                            | $t_f$         | $I_C = 2 \text{ A}, I_{Bend} = 0.75 \text{ A}$                    |      |      | 0.75 | $\mu\text{s}$ |
| Storage time                         | $t_{stg}$     | $L_{leak} = 5 \mu\text{H}$  | 3    |      | 7    | $\mu\text{s}$ |
| Diode forward voltage                | $V_F$         | $V_{CE} = 10 \text{ V}, I_C = 0.5 \text{ A}, f = 0.5 \text{ MHz}$ |      |      | -2.2 | V             |

#### ■ Package Dimensions



#### ■ Inner Circuit



■ 6932852 0016716 T01 ■

