

# 2SD1632

## Silicon NPN Triple-Diffused Junction Mesa Type

### Horizontal Deflection Output

#### ■ Features

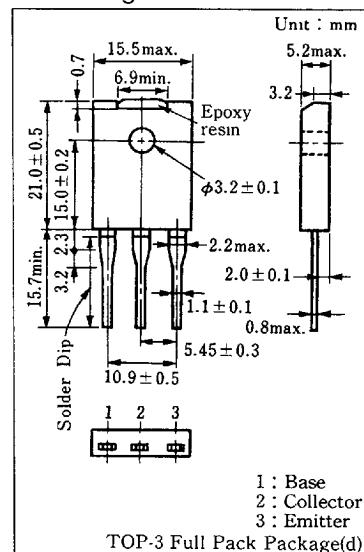
- Damper diode built-in
- High breakdown voltage and high reliability by glass passivation
- High speed switching
- Wide area of safety operation (ASO)
- "Full Pack" package for simplified mounting on a heat sink with one screw

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

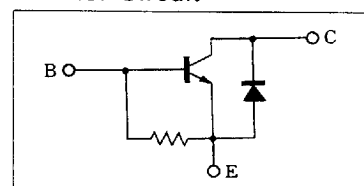
| Item                        | Symbol                   | Value      | Unit             |
|-----------------------------|--------------------------|------------|------------------|
| Collector-base voltage      | $V_{CB0}$                | 1500       | V                |
| Collector-emitter voltage   | $V_{CES}$                | 1500       | V                |
| Emitter-base voltage        | $V_{EBO}$                | 5          | V                |
| Collector current           | $I_C$                    | 4          | A                |
| Peak collector current      | $I_{CP}^*$               | 15         | A                |
| Peak base current           | $I_{BP}$                 | 3.5        | A                |
| Reverse peak base current   | $I_{BP}$                 | -2.5       | A                |
| Collector power dissipation | $T_c = 25^\circ\text{C}$ | $P_C$      | W                |
|                             | $T_a = 25^\circ\text{C}$ | 70         |                  |
| Junction temperature        | $T_J$                    | 130        | $^\circ\text{C}$ |
| Storage temperature         | $T_{stg}$                | -55 ~ +130 | $^\circ\text{C}$ |

\* Non-repetitive peak value

#### ■ Package Dimensions



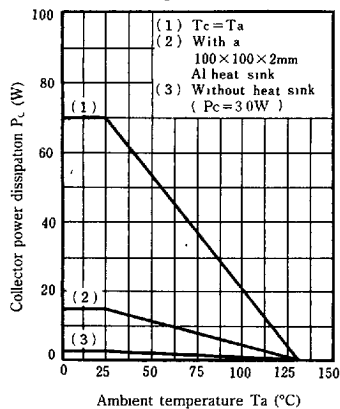
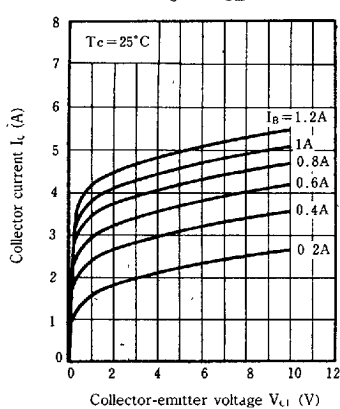
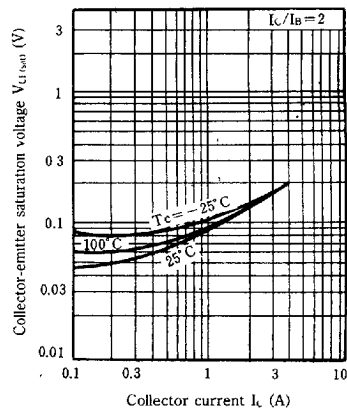
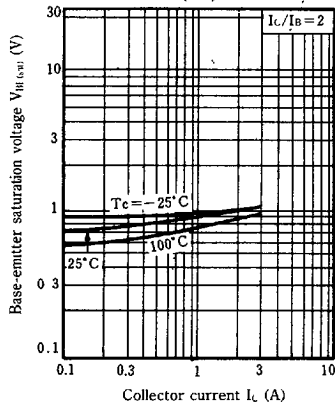
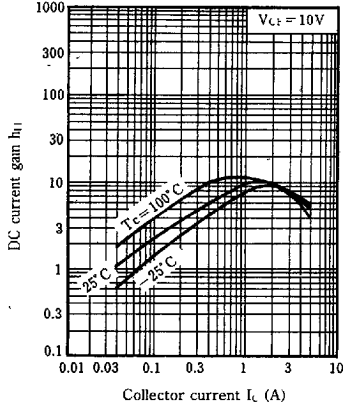
#### ■ Inner Circuit



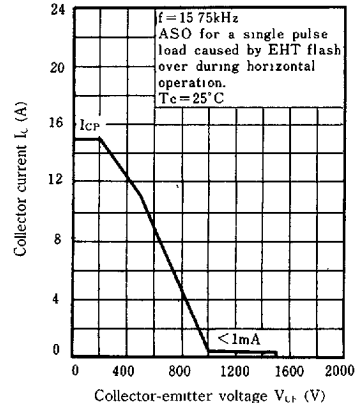
#### ■ Electrical Characteristics (Tc=25°C)

| Item                                 | Symbol        | Condition                                                    | min. | typ. | max. | Unit          |
|--------------------------------------|---------------|--------------------------------------------------------------|------|------|------|---------------|
| Collector cutoff current             | $I_{CB0}$     | $V_{CB} = 750\text{ V}, I_E = 0$                             |      |      | 50   | $\mu\text{A}$ |
|                                      |               | $V_{CB} = 1500\text{ V}, I_E = 0$                            |      |      | 1    | mA            |
| Emitter-base voltage                 | $V_{EBO}$     | $I_E = 500\text{ mA}, I_C = 0$                               | 5    |      |      |               |
| DC current gain                      | $h_{FE}$      | $V_{CE} = 10\text{ V}, I_C = 3\text{ A}$                     | 5    |      | 15   |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 3\text{ A}, I_B = 1\text{ A}$                         |      |      | 1    | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = 3\text{ A}, I_B = 1\text{ A}$                         |      |      | 1.5  | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = 10\text{ V}, I_C = 1\text{ A}, f = 0.5\text{ MHz}$ |      | 2    |      | MHz           |
| Fall time                            | $t_f$         | $I_C = 3\text{ A}, I_{Bend} = 1\text{ A}$                    |      |      | 0.75 | $\mu\text{s}$ |
| Storage time                         | $t_{stg}$     | $L_{leak} = 5\mu\text{H}$                                    | 4    |      | 9    | $\mu\text{s}$ |
| Diode forward voltage                | $V_F$         | $I_C = -4\text{ A}, I_B = 0$                                 |      |      | -2.2 | V             |

■ 6932852 0016776 486 ■

$P_C - T_a$  $I_C - V_{CE}$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$ 

Area of safe operation (ASO)

 $R_{th(t)} - t$ 