

# 2SC2899

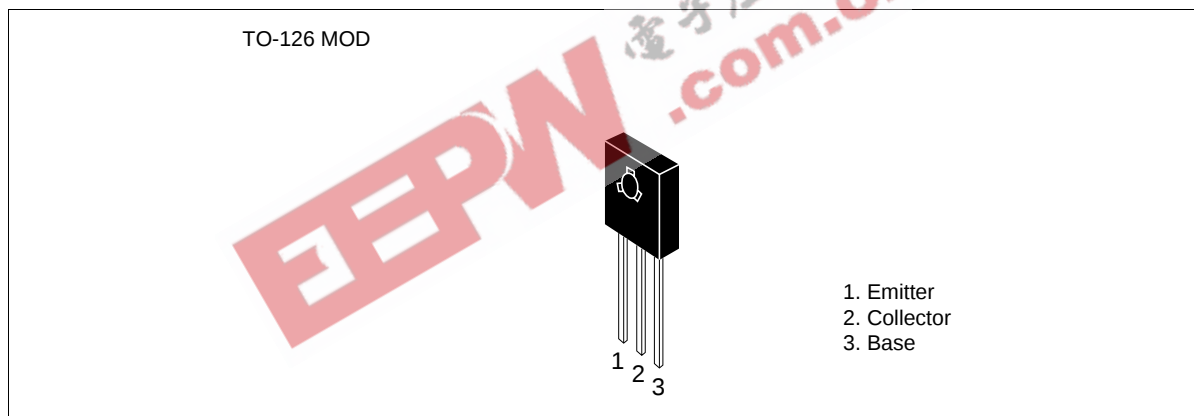
Silicon NPN Triple Diffused

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## Application

High speed and high voltage switching

## Outline



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

| Item                         | Symbol               | Ratings     | Unit             |
|------------------------------|----------------------|-------------|------------------|
| Collector to base voltage    | $V_{CBO}$            | 500         | V                |
| Collector to emitter voltage | $V_{CEO}$            | 400         | V                |
| Emitter to base voltage      | $V_{EBO}$            | 10          | V                |
| Collector current            | $I_C$                | 0.5         | A                |
| Collector peak current       | $I_{C(\text{peak})}$ | 1.0         | A                |
| Collector power dissipation  | $P_C$                | 0.75        | W                |
|                              | $P_C^{*1}$           | 10          | W                |
| Junction temperature         | $T_j$                | 150         | $^\circ\text{C}$ |
| Storage temperature          | $T_{stg}$            | -55 to +150 | $^\circ\text{C}$ |

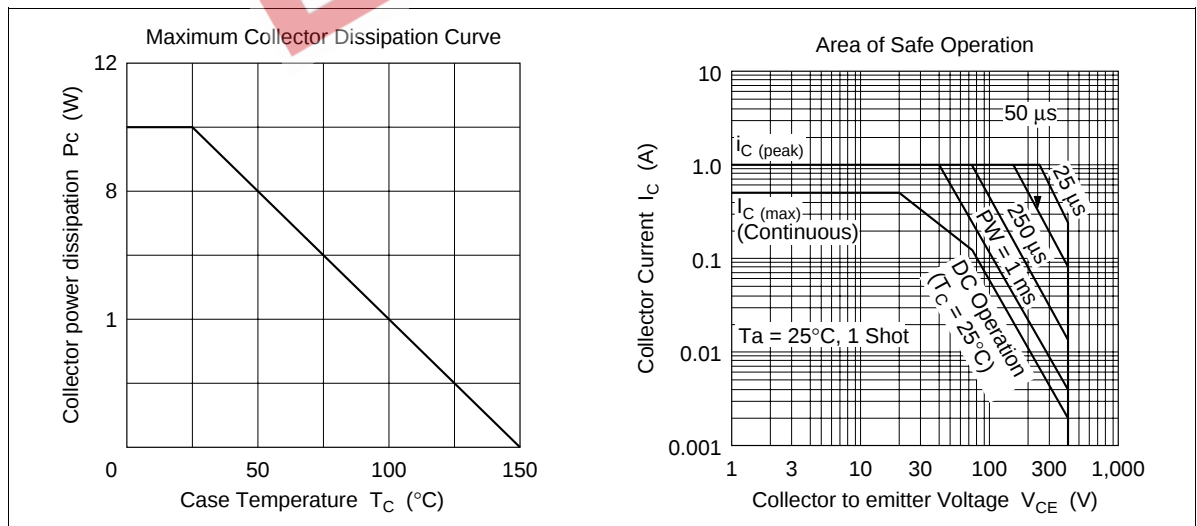
Note: 1. Value at  $T_c = 25^\circ\text{C}$ .

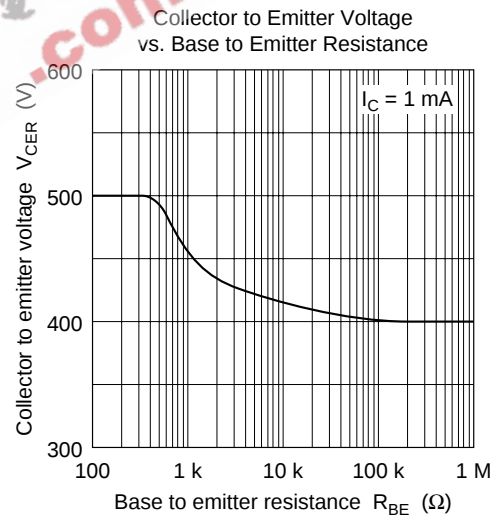
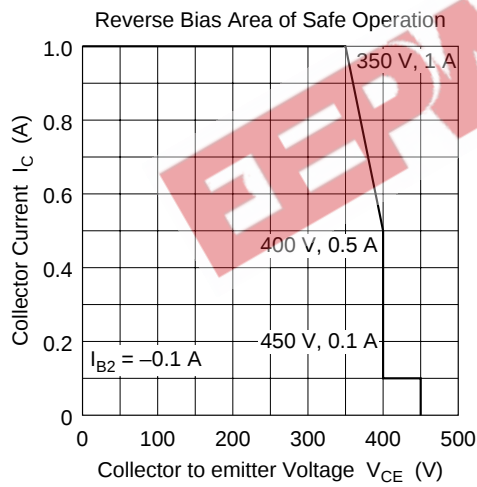
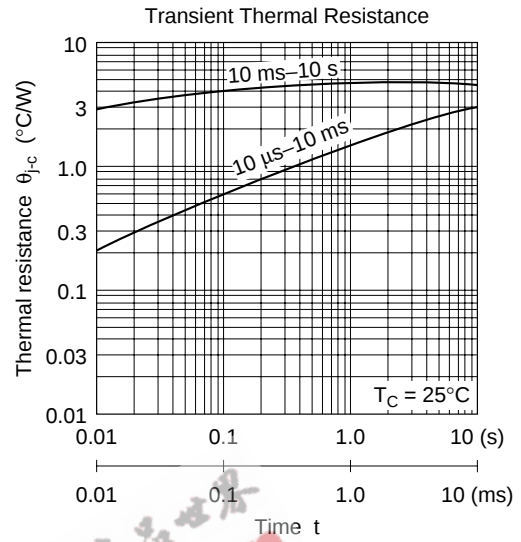
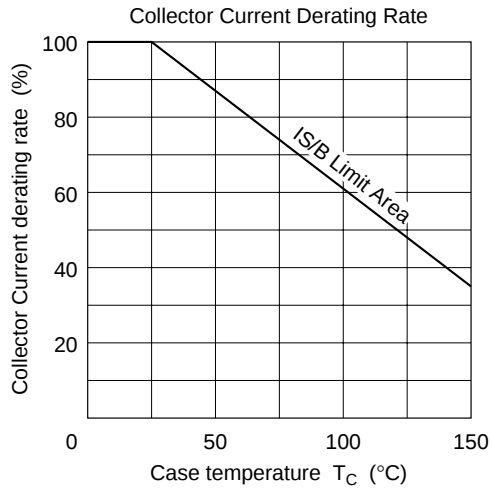
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### Electrical Characteristics (Ta = 25°C)

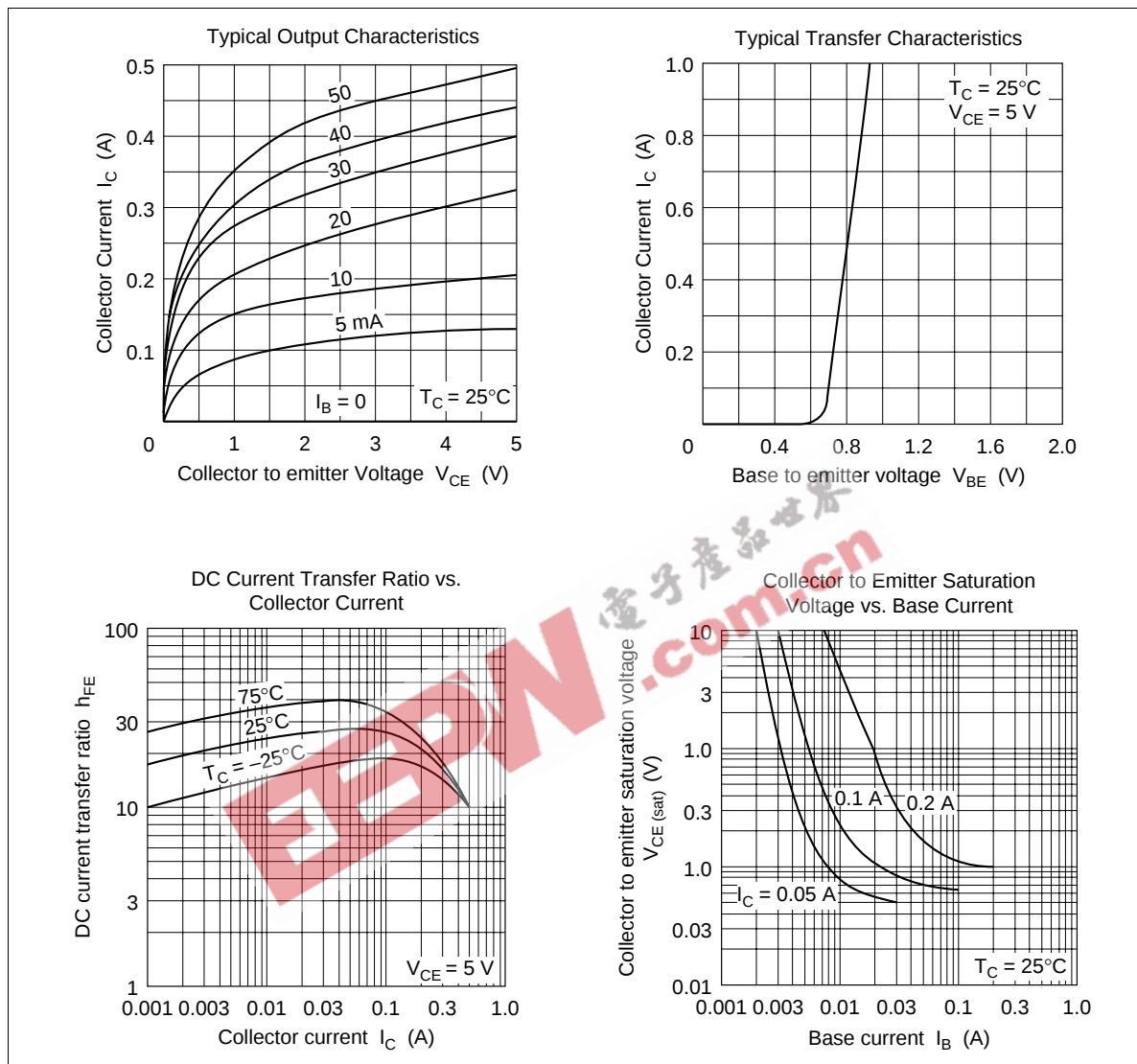
| Item                                    | Symbol         | Min | Typ | Max | Unit          | Test conditions                                                                                                            |
|-----------------------------------------|----------------|-----|-----|-----|---------------|----------------------------------------------------------------------------------------------------------------------------|
| Collector to emitter sustain voltage    | $V_{CE(sus)}$  | 400 | —   | —   | V             | $I_C = 0.1\text{ A}$ , $R_{BE} = \infty$ , $L = 100\text{ mH}$                                                             |
|                                         | $V_{CEX(sus)}$ | 400 | —   | —   | V             | $I_C = 0.5\text{ A}$ , $I_{B1} = -I_{B2} = 0.1\text{ A}$ , $V_{BE} = -5\text{ V}$ , $L = 180\text{ }\mu\text{H}$ , Clamped |
| Emitter to base breakdown voltage       | $V_{(BR)EBO}$  | 10  | —   | —   | V             | $I_E = 10\text{ mA}$ , $I_C = 0$                                                                                           |
| Collector cutoff current                | $I_{CBO}$      | —   | —   | 20  | $\mu\text{A}$ | $V_{CB} = 400\text{ V}$ , $I_C = 0$                                                                                        |
|                                         | $I_{CEO}$      | —   | —   | 50  | $\mu\text{A}$ | $V_{CE} = 350\text{ V}$ , $R_{BE} = \infty$                                                                                |
| DC current transfer ratio               | $h_{FE1}$      | 15  | —   | —   |               | $V_{CE} = 5\text{ V}$ , $I_C = 0.25\text{ A}^{*1}$                                                                         |
|                                         | $h_{FE2}$      | 7   | —   | —   |               | $V_{CE} = 5\text{ V}$ , $I_C = 0.5\text{ A}^{*1}$                                                                          |
| Collector to emitter saturation voltage | $V_{CE(sat)}$  | —   | —   | 1.0 | V             | $I_C = 0.25\text{ A}$ , $I_B = 0.05\text{ A}^{*1}$                                                                         |
| Base to emitter saturation voltage      | $V_{BE(sat)}$  | —   | —   | 1.5 | V             |                                                                                                                            |
| Turn on time                            | $t_{on}$       | —   | —   | 1.0 | $\mu\text{s}$ | $I_C = 0.5\text{ A}$ , $I_{B1} = -I_{B2} = 0.1\text{ A}$ ,                                                                 |
| Storage time                            | $t_{stg}$      | —   | —   | 2.0 | $\mu\text{s}$ | $V_{CC} \cong 150\text{ V}$                                                                                                |
| Fall time                               | $t_f$          | —   | —   | 1.0 | $\mu\text{s}$ |                                                                                                                            |

Note: 1. Pulse test

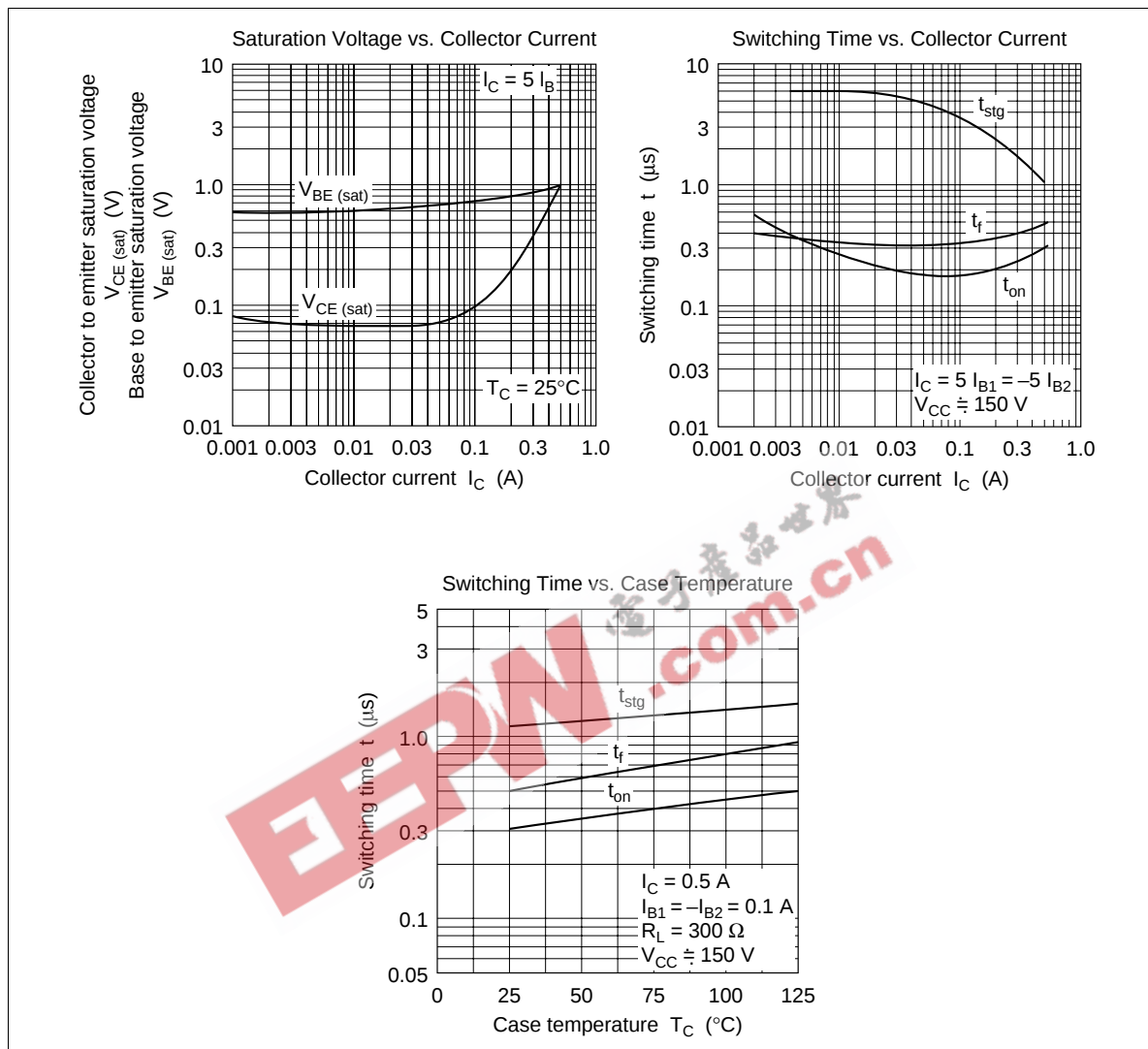




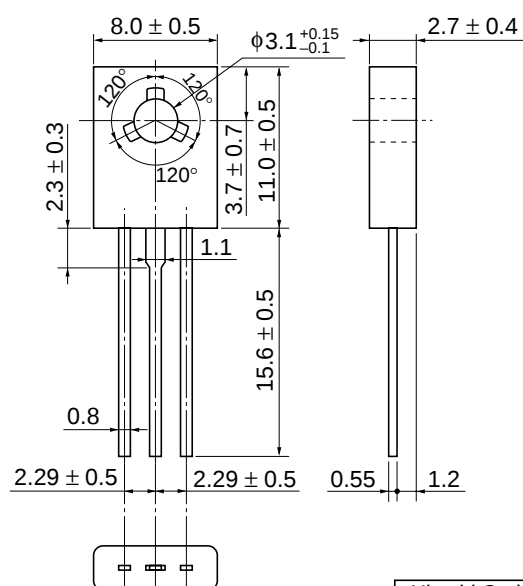
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Unit: mm



|                          |            |
|--------------------------|------------|
| Hitachi Code             | TO-126 Mod |
| JEDEC                    | —          |
| EIAJ                     | —          |
| Weight (reference value) | 0.67 g     |

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