

## Silicon NPN Power Transistors

2SD1279

## DESCRIPTION

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- With TO-3 package
- High voltage;high speed
- Low collector saturation voltage

## APPLICATIONS

- Color TV horizontal deflection output applications
- Switching regulator applications

## PINNING(see Fig.2)

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Base        |
| 2   | Emitter     |
| 3   | Collector   |



Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings( $T_a = \square$ )

| SYMBOL    | PARAMETER                   | CONDITIONS         | VALUE   | UNIT      |
|-----------|-----------------------------|--------------------|---------|-----------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter       | 1400    | V         |
| $V_{CEO}$ | Collector-emitter voltage   | Open base          | 600     | V         |
| $V_{EBO}$ | Emitter-base voltage        | Open collector     | 5       | V         |
| $I_C$     | Collector current           |                    | 10      | A         |
| $I_B$     | Base current                |                    | 5       | A         |
| $P_C$     | Collector power dissipation | $T_C = 25 \square$ | 50      | W         |
| $T_j$     | Junction temperature        |                    | 150     | $\square$ |
| $T_{stg}$ | Storage temperature         |                    | -65~150 | $\square$ |

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## CHARACTERISTICS

Tj=25°C unless otherwise specified

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| SYMBOL                | PARAMETER                            | CONDITIONS                                       | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|--------------------------------------------------|-----|------|-----|------|
| V <sub>CEQ(SUS)</sub> | Collector-emitter sustaining voltage | I <sub>C</sub> =100mA ; I <sub>B</sub> =0        | 600 |      |     | V    |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage | I <sub>C</sub> =8A; I <sub>B</sub> =2A           |     |      | 5.0 | V    |
| V <sub>BEsat</sub>    | Base-emitter saturation voltage      | I <sub>C</sub> =8A; I <sub>B</sub> =2A           |     |      | 1.6 | V    |
| I <sub>CBO</sub>      | Collector cut-off current            | V <sub>CB</sub> =500V; I <sub>E</sub> =0         |     |      | 10  | μA   |
| I <sub>EBO</sub>      | Emitter cut-off current              | V <sub>EB</sub> =5V; I <sub>C</sub> =0           |     |      | 1.0 | mA   |
| h <sub>FE</sub>       | DC current gain                      | I <sub>C</sub> =2A ; V <sub>CE</sub> =5V         | 8   | 22   |     |      |
| f <sub>T</sub>        | Transition frequency                 | I <sub>C</sub> =0.1A ; V <sub>CE</sub> =10V      |     | 3    |     | MHz  |
| C <sub>OB</sub>       | Collector output capacitance         | I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=1MHz |     | 165  |     | pF   |
| t <sub>f</sub>        | Fall time                            | I <sub>CP</sub> =7A ; I <sub>B1(end)</sub> =1.5A |     |      | 1.0 | μs   |

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## PACKAGE OUTLINE

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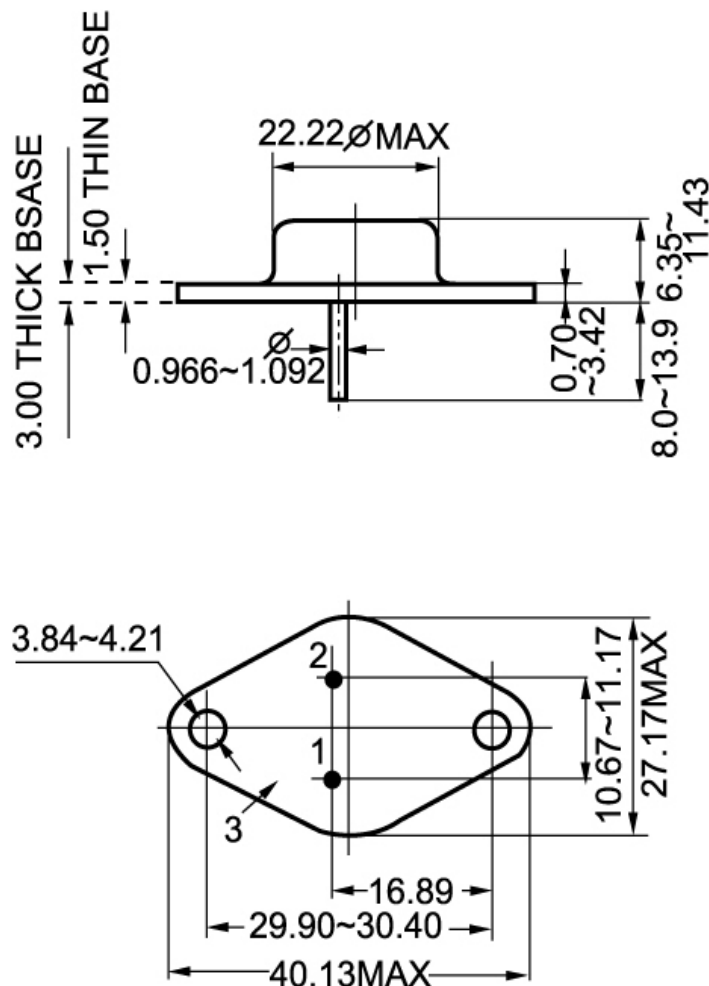


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)