

## isc Silicon NPN Power Transistor

2SD1279

## DESCRIPTION

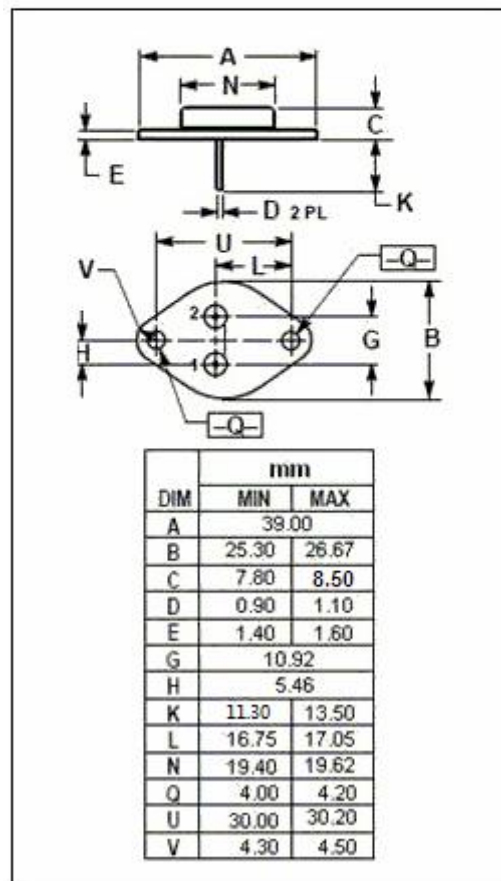
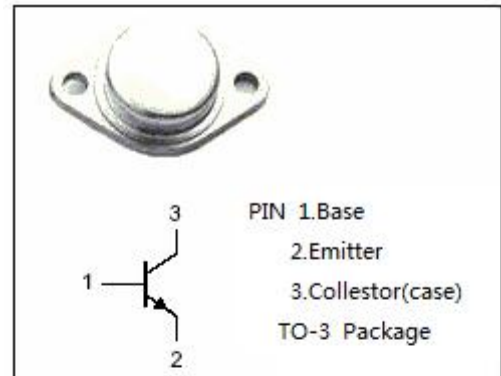
- High Breakdown Voltage-  
:  $V_{CBO} = 1400V$  (Min)
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 5.0V$  (Max.) @  $I_C = 8.0A$
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for high voltage power switching TV horizontal deflection output applications.

ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ C$ )

| SYMBOL    | PARAMETER                                           | VALUE   | UNIT       |
|-----------|-----------------------------------------------------|---------|------------|
| $V_{CBO}$ | Collector-Base Voltage                              | 1400    | V          |
| $V_{CEO}$ | Collector-Emitter Voltage                           | 600     | V          |
| $V_{EBO}$ | Emitter-Base Voltage                                | 5       | V          |
| $I_C$     | Collector Current- Continuous                       | 10      | A          |
| $I_B$     | Base Current-Continuous                             | 5       | A          |
| $P_C$     | Collector Power Dissipation<br>@ $T_C = 25^\circ C$ | 50      | W          |
| $T_J$     | Junction Temperature                                | 150     | $^\circ C$ |
| $T_{stg}$ | Storage Temperature Range                           | -65~150 | $^\circ C$ |



**isc Silicon NPN Power Transistor****2SD1279****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

| SYMBOL               | PARAMETER                            | CONDITIONS                                                           | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|----------------------------------------------------------------------|-----|------|-----|------|
| V <sub>(BR)EBO</sub> | Emitter-Base Breakdown Voltage       | I <sub>E</sub> = 1mA; I <sub>C</sub> = 0                             | 5   |      |     | V    |
| V <sub>(BR)CEO</sub> | Collector-Emitter Breakdown Voltage  | I <sub>C</sub> = 10mA; R <sub>BE</sub> = ∞                           | 600 |      |     | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 8A; I <sub>B</sub> = 2A                             |     |      | 5.0 | V    |
| V <sub>BE(sat)</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> = 8A; I <sub>B</sub> = 2A                             |     |      | 1.6 | V    |
| I <sub>CBO</sub>     | Collector Base Cutoff Current        | V <sub>CB</sub> =1000V; I <sub>E</sub> = 0                           |     |      | 10  | uA   |
| I <sub>EBO</sub>     | Emitter Cutoff Current               | V <sub>EB</sub> = 5V; I <sub>C</sub> = 0                             |     |      | 0.1 | mA   |
| h <sub>FE-1</sub>    | DC Current Gain                      | I <sub>C</sub> = 1A ; V <sub>CE</sub> = 5V                           | 10  |      | 40  |      |
| h <sub>FE-2</sub>    | DC Current Gain                      | I <sub>C</sub> = 2A ; V <sub>CE</sub> = 5V                           | 8   |      |     |      |
| f <sub>T</sub>       | Current-Gain—Bandwidth Product       | I <sub>C</sub> = 0.1A; V <sub>CE</sub> = 10V                         |     | 3    |     | MHz  |
| C <sub>OB</sub>      | Output Capacitance                   | I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V, f <sub>test</sub> = 1MHz |     | 165  |     | pF   |
| t <sub>f</sub>       | Fall Time                            | I <sub>C</sub> = 7.0A, I <sub>B1</sub> = I <sub>B2</sub> = 1.5A      |     |      | 1.0 | μ s  |

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