

## isc Silicon NPN Power Transistor

2SD783

## DESCRIPTION

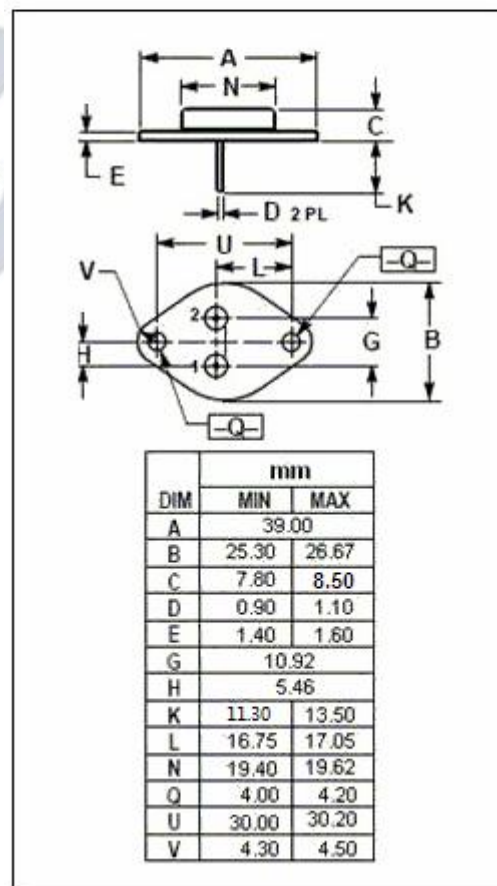
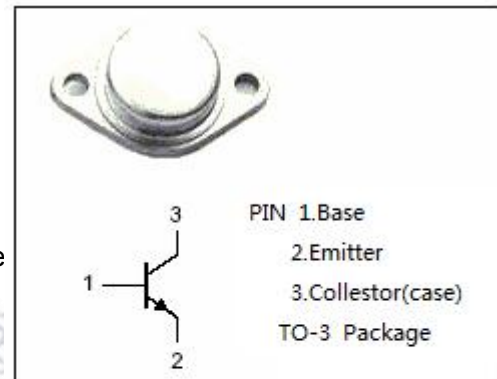
- High Breakdown Voltage-  
:  $V_{CBO} = 1500V$  (Min)
- High Switching Speed
- Low collector saturation voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.

## APPLICATIONS

- Designed for TV horizontal deflection output applications.

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

| SYMBOL    | PARAMETER   | VALUE   | UNIT       |
|-----------|---|---------|------------|
| $V_{CBO}$ | Collector-Base Voltage                              | 1500    | V          |
| $V_{CEO}$ | Collector-Emitter Voltage                           | 600     | V          |
| $V_{EBO}$ | Emitter-Base Voltage                                | 6       | V          |
| $I_C$     | Collector Current-Continuous                        | 4       | A          |
| $I_{CM}$  | Collector Current-Peak                              | 6       | 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                           | -45-150 | $^\circ C$ |



**isc Silicon NPN Power Transistor****2SD783****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

| SYMBOL               | PARAMETER                            | CONDITIONS  | MIN | MAX | UNIT |
|----------------------|--------------------------------------|---|-----|-----|------|
| V <sub>(BR)EBO</sub> | Emitter-Base Breakdown Voltage       | I <sub>E</sub> = 1mA; I <sub>C</sub> = 0                              | 6   |     | V    |
| V <sub>(BR)CEO</sub> | Collector-Emitter Breakdown Voltage  | I <sub>C</sub> = 10mA; I <sub>B</sub> = 0                             | 600 |     | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 3.5A; I <sub>B</sub> = 1A                            |     | 5.0 | V    |
| V <sub>BE(sat)</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> = 3.5A; I <sub>B</sub> = 1A                            |     | 1.5 | V    |
| I <sub>CBO</sub>     | Collector Cutoff Current             | V <sub>CB</sub> =1500V; I <sub>B</sub> = 0                            |     | 0.5 | mA   |
| I <sub>EBO</sub>     | Emitter Cutoff Current               | V <sub>EB</sub> = 6V; I <sub>C</sub> =0                               |     | 10  | uA   |
| h <sub>FE-1</sub>    | DC Current Gain                      | I <sub>C</sub> = 0.3A ; V <sub>CE</sub> = 5V                          | 10  | 36  |      |
| h <sub>FE-2</sub>    | DC Current Gain                      | I <sub>C</sub> = 3A ; V <sub>CE</sub> = 5V                            | 7   |     |      |
| t <sub>f</sub>       | Fall Time                            | I <sub>C</sub> = 3.0A; I <sub>B1</sub> =0.6 A; I <sub>B2</sub> = 1.5A |     | 2.0 | μ s  |