

# NPN SILICON RF POWER TRANSISTOR

## DESCRIPTION:

The **ASI 2N5643** is Designed for wideband large-signal amplifier stages in the 125 – 175 MHz range.

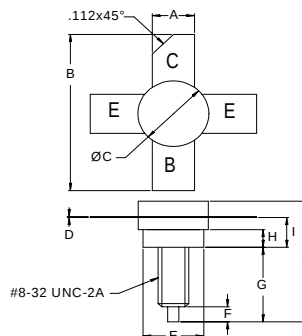
## FEATURES:

- Minimum Gain = 7.6 dB
- Output Power = 40 W
- **Omnigold™** Metalization System

## MAXIMUM RATINGS

|                         |                               |
|-------------------------|-------------------------------|
| <b>I<sub>C</sub></b>    | 5.0 A                         |
| <b>V<sub>CB0</sub></b>  | 65 V                          |
| <b>V<sub>CEO</sub></b>  | 35 V                          |
| <b>V<sub>EBO</sub></b>  | 4.0 V                         |
| <b>P<sub>DISS</sub></b> | 60 W @ T <sub>C</sub> = 25 °C |
| <b>T<sub>J</sub></b>    | -65 °C to +200 °C             |
| <b>T<sub>STG</sub></b>  | -65 °C to +200 °C             |
| <b>θ<sub>JC</sub></b>   | 2.9 °C/W                      |

## PACKAGE STYLE .380 4L STUD



| DIM | MINIMUM<br>inches / mm | MAXIMUM<br>inches / mm |
|-----|------------------------|------------------------|
| A   | .220 / 5.59            | .230 / 5.84            |
| B   | .980 / 24.89           |                        |
| C   | .370 / 9.40            | .385 / 9.78            |
| D   | .004 / 0.10            | .007 / 0.18            |
| E   | .320 / 8.13            | .330 / 8.38            |
| F   | .100 / 2.54            | .130 / 3.30            |
| G   | .450 / 11.43           | .490 / 12.45           |
| H   | .090 / 2.29            | .100 / 2.54            |
| I   | .155 / 3.94            | .175 / 4.45            |
| J   |                        | .750 / 19.05           |

## CHARACTERISTICS T<sub>C</sub> = 25 °C

| SYMBOL                  | TEST CONDITIONS         |                         |             | MINIMUM | TYPICAL | MAXIMUM | UNITS |
|-------------------------|-------------------------|-------------------------|-------------|---------|---------|---------|-------|
| <b>BV<sub>CEO</sub></b> | I <sub>C</sub> = 200 mA |                         |             | 35      |         |         | V     |
| <b>BV<sub>CES</sub></b> | I <sub>C</sub> = 200 mA |                         |             | 65      |         |         | V     |
| <b>BV<sub>EBO</sub></b> | I <sub>E</sub> = 10 mA  |                         |             | 4.0     |         |         | V     |
| <b>I<sub>CB0</sub></b>  | V <sub>CB</sub> = 30 V  |                         |             |         |         | 1.0     | mA    |
| <b>h<sub>FE</sub></b>   | V <sub>CE</sub> = 5.0 V | I <sub>C</sub> = 500 mA |             | 5.0     |         | ---     | ---   |
| <b>C<sub>OB</sub></b>   | V <sub>CB</sub> = 30 V  | f = 1.0 MHz             |             |         | 45      | 65      | pF    |
| <b>G<sub>P</sub></b>    | V <sub>CE</sub> = 28 V  | P <sub>OUT</sub> = 40 W | f = 175 MHz | 7.6     | 8.1     | ---     | dB    |
| <b>η<sub>C</sub></b>    | V <sub>CE</sub> = 10 V  | I <sub>C</sub> = 200 mA | f = 100 MHz |         | 60      |         | %     |