# NPN SILICON RF POWER TRANSISTOR

## DESCRIPTION:

The **ASI HF100-12** is a 12.5 V Class-C epitaxial planar transistor designed primarily for HF communications. This device utilizes state of the art diffused Emitter Ballasting to achieve extreme ruggedness under severe operating conditions.

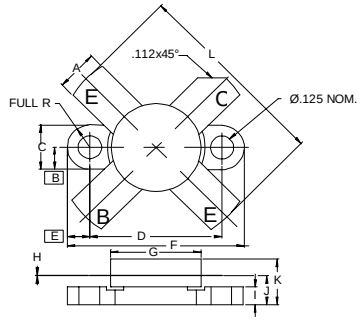
## FEATURES:

- $\mathbf{P_G}$ = 13 Typ. min. at 100 W/30 MHz
- $\mathbf{IMD_3}$ = -30 dBc max. at 100 W(PEP)
- ***Omnigold***™ Metalization System

## MAXIMUM RATINGS

| | |
|---|---|
| $\mathbf{I_C}$ | 20 A |
| $\mathbf{V_{CBO}}$ | 36 V |
| $\mathbf{V_{CEO}}$ | 18 V |
| $\mathbf{V_{EBO}}$ | 4.0 V |
| $\mathbf{P_{DISS}}$ | 290 W @ $T_C$ = 25 °C |
| $\mathbf{T_J}$ | -65 °C to +200 °C |
| $\mathbf{T_{STG}}$ | -65 °C to +150 °C |
| $\mathbf{\theta_{JC}}$ | 0.6 °C/W |

## PACKAGE STYLE .500 4L FLG




| DIM | MINIMUM inches / mm | MAXIMUM inches / mm |
|---|---|---|
| A | .220 / 5.59 | .230 / 5.84 |
| B | .125 / 3.18 | |
| C | .245 / 6.22 | .255 / 6.48 |
| D | .720 / 18.28 | .7.30 / 18.54 |
| E | .125 / 3.18 | |
| F | .970 / 24.64 | .980 / 24.89 |
| G | .495 / 12.57 | .505 / 12.83 |
| H | .003 / 0.08 | .007 / 0.18 |
| I | .090 / 2.29 | .110 / 2.79 |
| J | .150 / 3.81 | .175 / 4.45 |
| K | | .280 / 7.11 |
| L | .980 / 24.89 | 1.050 / 26.67 |

**ORDER CODE: ASI10599**

## CHARACTERISTICS $T_C$ = 25 °C

| SYMBOL | TEST CONDITIONS | MINIMUM | TYPICAL | MAXIMUM | UNITS |
|---|---|---|---|---|---|
| $\mathbf{BV_{CBO}}$ | $I_C$ = 100 mA | 36 | | | **V** |
| $\mathbf{BV_{CES}}$ | $I_C$ = 100 mA | 36 | | | **V** |
| $\mathbf{BV_{CEO}}$ | $I_C$ = 100 mA | 18 | | | **V** |
| $\mathbf{BV_{EBO}}$ | $I_E$ = 10 mA | 4.0 | | | **V** |
| $\mathbf{I_{CES}}$ | $V_{CE}$ = 15 V | | | 20 | **mA** |
| $\mathbf{h_{FE}}$ | $V_{CE}$ = 5.0 V $I_C$ = 5.0 A | 10 | | 200 | **---** |
| | | | | | |
| $\mathbf{C_{OB}}$ | $V_{CB}$ = 12.5 V f = 1.0 MHz | | 400 | | **pF** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| $G_P$ | $V_{CE}$ = 12.5 V | $I_{CQ}$ = 150 mA | f = 30 MHz | 11 | 13 | | **dB** |
| **$IMD_3$** | $V_{CE}$ = 12.5 V | $I_{CQ}$ = 150 mA | $P_{OUT}$ = 100 W | | | -30 | **dBc** |