

NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

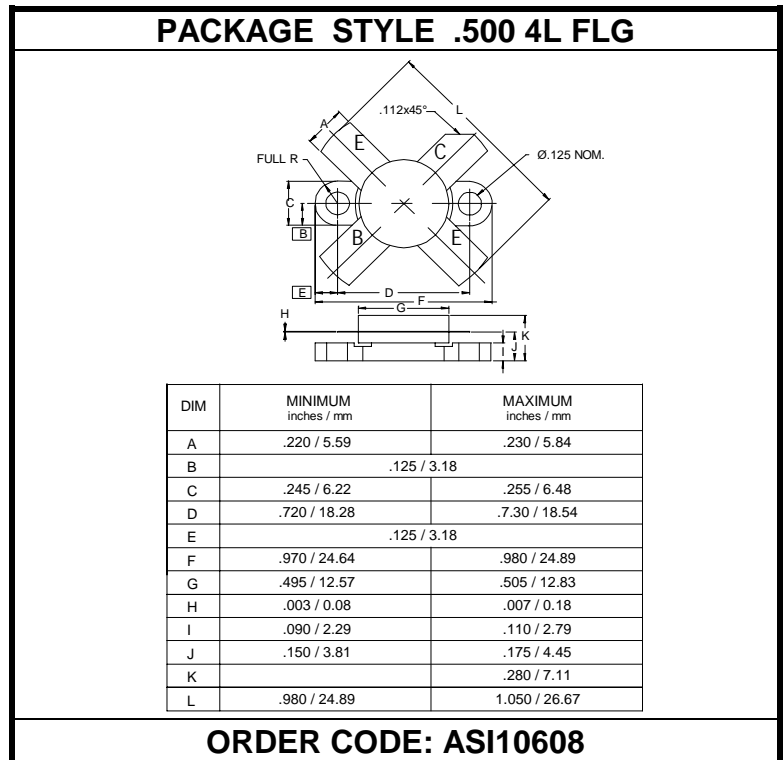
The **ASI HF100-28** is a class A silicon NPN planar transistor, designed for SSB communications. Diffused ballasting provide High VSRW Capability under rated operating conditions.

FEATURES:

- $P_G = 15$ dB min. at 100 W/30 MHz
- High linear power output
- $IMD_3 = -30$ dBc max. at 100 W_(PEP)
- **Omnigold™** Metalization System
- 28 V CE operation

MAXIMUM RATINGS

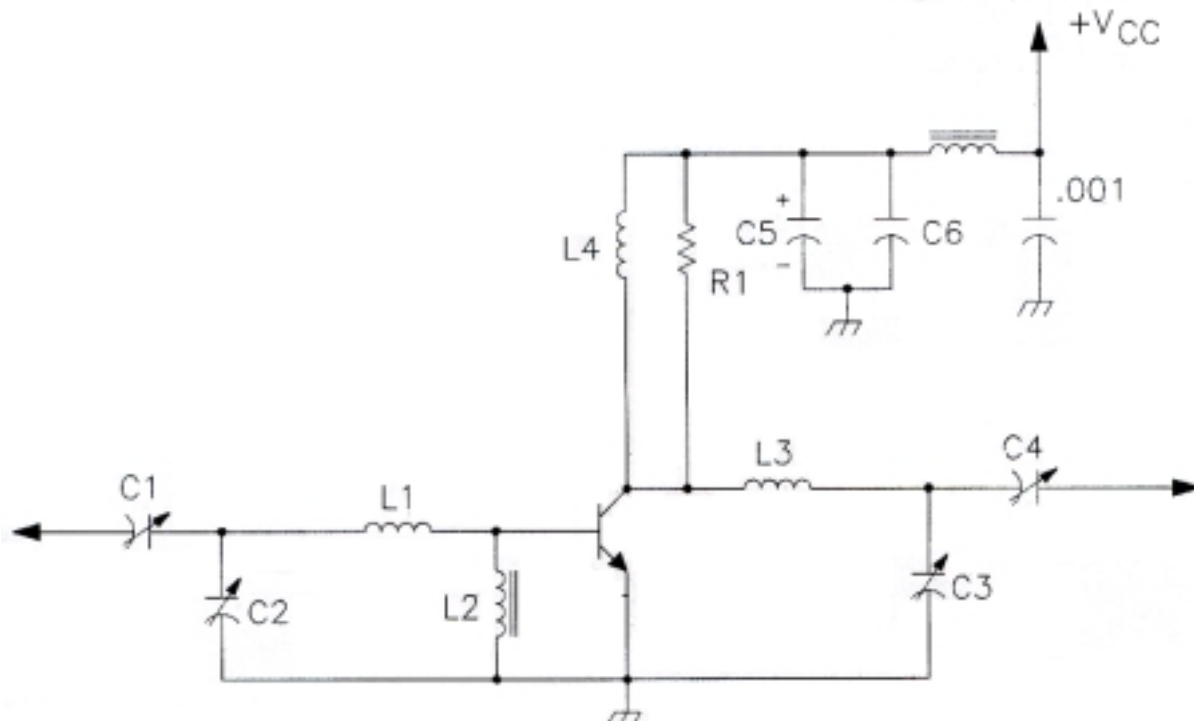
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|---------------|-----------------------|
| I_C | 20 A |
| V_{CBO} | 65 V |
| V_{CEO} | 36 V |
| V_{EBO} | 4.0 V |
| P_{DISS} | 270 W @ $T_C = 25$ °C |
| T_J | -65 °C to +200 °C |
| T_{STG} | -65 °C to +150 °C |
| θ_{JC} | 0.65 °C/W |



CHARACTERISTICS $T_C = 25$ °C

| SYMBOL | TEST CONDITIONS | MINIMUM | TYPICAL | MAXIMUM | UNITS |
|------------|---|---------|---------|---------|-------|
| BV_{CEO} | $I_C = 100$ mA | 35 | | | V |
| BV_{CES} | $I_C = 100$ mA | 65 | | | V |
| BV_{CBO} | $I_C = 100$ mA | 65 | | | V |
| BV_{EBO} | $I_E = 10$ mA | 4.0 | | | V |
| I_{CES} | $V_{CE} = 30$ V | | | 15 | mA |
| h_{FE} | $V_{CE} = 5.0$ V $I_C = 5.0$ A | 10 | | 200 | --- |
| C_{ob} | $V_{CB} = 30$ V $f = 1.0$ MHz | --- | | 285 | pF |
| G_P | $V_{CE} = 28$ V $P_{IN} = 3.16$ W $P_{PUT} = 100$ W | 15 | 16 | | dB |
| IMD_3 | $f_1 = 30.000$ MHz $I_{CQ} = 100$ mA $f_2 = 30.001$ MHz | | -34 | -30 | dBc |

TEST CIRCUIT



- | | | | |
|-------|-----------------------------------|-------|--|
| C1 | : 24 - 200pF Arco 425 | L1 | : 4 Turns, #16 AWG, Tinned, 0.40" I.D. |
| C2,C4 | : 50 - 380pF Arco 465 | L2,L5 | : 1 Turn, #22 AWG, Tinned, formed with VK-200 #4B Ferroxcube |
| C3 | : 9 - 180pF Arco 463 | L4 | : 17 Turns, #18 Enameled Wire Wrapped Around R1 |
| C5 | : 10 μ F, Electrolytic, 35Vdc | R1 | : 390 Ω Resistor (2 Watt) |
| C6 | : 0.01 μ F, 100V, Ceramic | | |

SAFE OPERATING AREA

