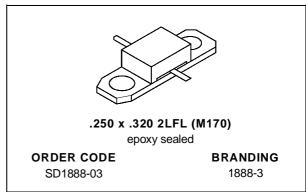


SD1888-03

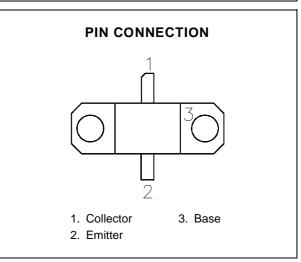
RF & MICROWAVE TRANSISTORS 1.6 GHz SATCOM APPLICATIONS

- 1.65 GHz
- 28 VOLTS
- EFFICIENCY 50% MIN.
- CLASS C OPERATION
- COMMON BASE
- INPUT/OUTPUT MATCHING
- P_{OUT} = 24 W MIN. WITH 9.0 dB GAIN





transistor designed for INMARSAT and other 1.65 GHz SATCOM applications. A gold metallized emitter-ballasted die geometry is employed providing high gain and efficiency while ensuring long term reliability and ruggedness under severe operating conditions. SD1888-03 is packaged in a cost-effective epoxy sealed housing



ABSOLUTE MAXIMUM RATINGS $(T_{case} = 25^{\circ}C)$

| Symbol | Parameter | Value | Unit |
|-------------------|---------------------------|--------------|------|
| V _{CBO} | Collector-Base Voltage | 45 | V |
| V _{CEO} | Collector-Emitter Voltage | 12 | V |
| V _{EBO} | Emitter-Base Voltage | 3.0 | V |
| Ic | Device Current | 2.6 | А |
| P _{DISS} | Power Dissipation | 50 | W |
| TJ | Junction Temperature | +200 | °C |
| T _{STG} | Storage Temperature | - 65 to +150 | °C |

THERMAL DATA

| | R _{TH(j-c)} | Junction-Case Thermal Resistance | 3.5 | °C/W | |
|--|----------------------|----------------------------------|-----|------|--|

July 1993 1/4

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

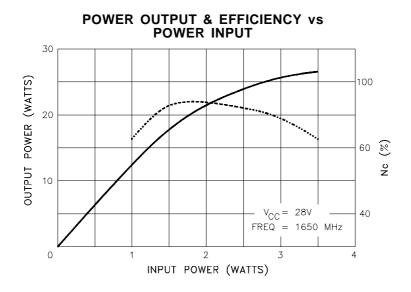
STATIC

| Symbol | | Test Conditions | | Value | | | Unit |
|-------------------|-----------------------|------------------------|--|----------------|------|-----|------|
| | | rest Conditions | | Min. Typ. Max. | Unit | | |
| ВУсво | I _C = 6 mA | $I_E = 0 \text{ mA}$ | | 45 | | _ | V |
| BV _{CEO} | I _C = 6 mA | $I_B = 0 \text{ mA}$ | | 12 | | _ | V |
| BV _{EBO} | I _E = 6 mA | $I_C = 0 \text{ mA}$ | | 3.0 | _ | _ | V |
| hFE | Vce = 5 V | I _C = 1.2 A | | 15 | _ | 150 | _ |

DYNAMIC

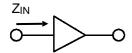
| Symbol | | Test Conditions | | Value | | Unit | |
|----------------|--------------|--------------------------|-------------------------|-------|------|------|-------|
| Symbol | | rest Conditions | | Min. | Тур. | Max. | Oiiit |
| Pout | f = 1.65 GHz | $P_{IN} = 3.0 W$ | $V_{CE} = 28 \text{ V}$ | 24 | _ | _ | W |
| G _P | f = 1.65 GHz | P _{IN} = 3.0 W | V _{CE} = 28 V | 9.0 | _ | | dB |
| ης | f = 1.65 GHz | $P_{IN} = 3.0 \text{ W}$ | V _{CE} = 28 V | 50 | _ | _ | % |

TYPICAL PERFORMANCE

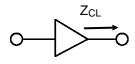


IMPEDANCE DATA



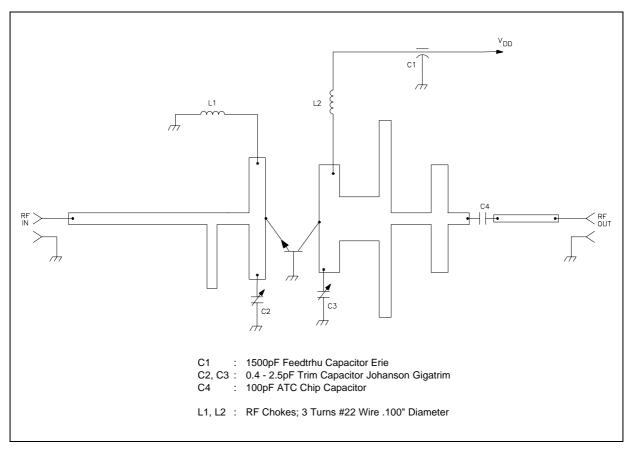


TYPICAL COLLECTOR LOAD IMPEDANCE

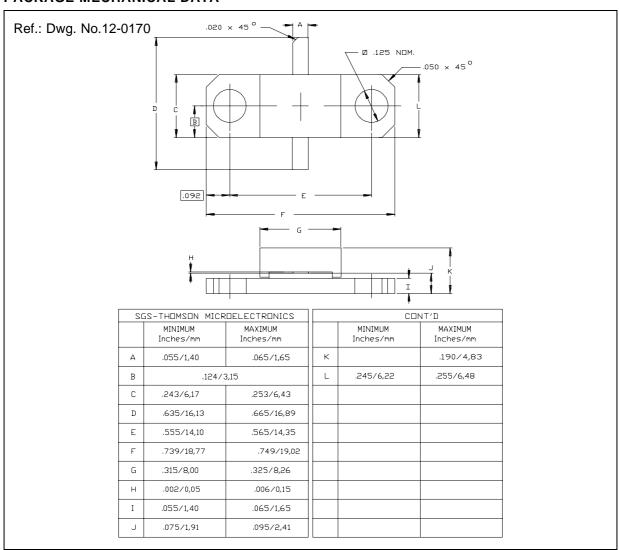


| FREQ. | Z _{IN} (Ω) | Z _{CL} (Ω) |
|----------|---------------------|---------------------|
| 1600 MHz | 9.0 + j 14.0 | 11.0 + j 2.0 |
| 1650 MHz | 11.5 + j 12.0 | 9.0 + j 4.0 |
| 1700 MHz | 23.0 + j 8.0 | 8.0 + j 5.5 |

TEST CIRCUIT



PACKAGE MECHANICAL DATA



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