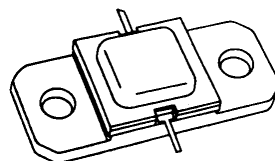


RF & MICROWAVE TRANSISTORS UHF COMMUNICATIONS APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- INPUT/OUTPUT MATCHING
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 30 \text{ W MIN. WITH } 8.5 \text{ dB GAIN}$



.400 x .400 2NLFL (S042)
hermetically sealed

ORDER CODE

AM80610-030

BRANDING

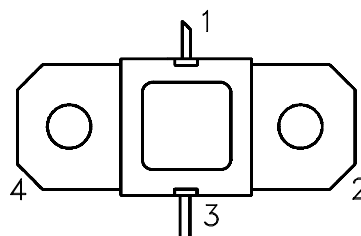
80610-30

DESCRIPTION

The AM80610-030 is a high power, common base NPN silicon bipolar device optimized for CW operation in the 620 - 960 MHz frequency range.

AM80610-030 utilizes a rugged, overlay, emitter-ballasted L-Band die geometry to achieve high gain and collector efficiency and is suitable for driver or output stage use in Class C power amplifiers. Typical applications include military communications, ECM, and test equipment.

The AM80610-030 is provided in the industry-standard, metal/ceramic AMPAC™ hermetic package.

PIN CONNECTION


- | | |
|--------------|------------|
| 1. Collector | 3. Emitter |
| 2. Base | 4. Base |

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

| Symbol | Parameter | Value | Unit |
|------------|--|--------------|--------------------|
| P_{DISS} | Power Dissipation* ($T_C \leq 50^{\circ}\text{C}$) | 57 | W |
| I_C | Device Current* | 3.0 | A |
| V_{CC} | Collector-Supply Voltage* | 32 | V |
| T_J | Junction Temperature | 200 | $^{\circ}\text{C}$ |
| T_{STG} | Storage Temperature | - 65 to +200 | $^{\circ}\text{C}$ |

THERMAL DATA

| | | | |
|---------------|-----------------------------------|-----|----------------------|
| $R_{TH(j-c)}$ | Junction-Case Thermal Resistance* | 2.6 | $^{\circ}\text{C/W}$ |
|---------------|-----------------------------------|-----|----------------------|

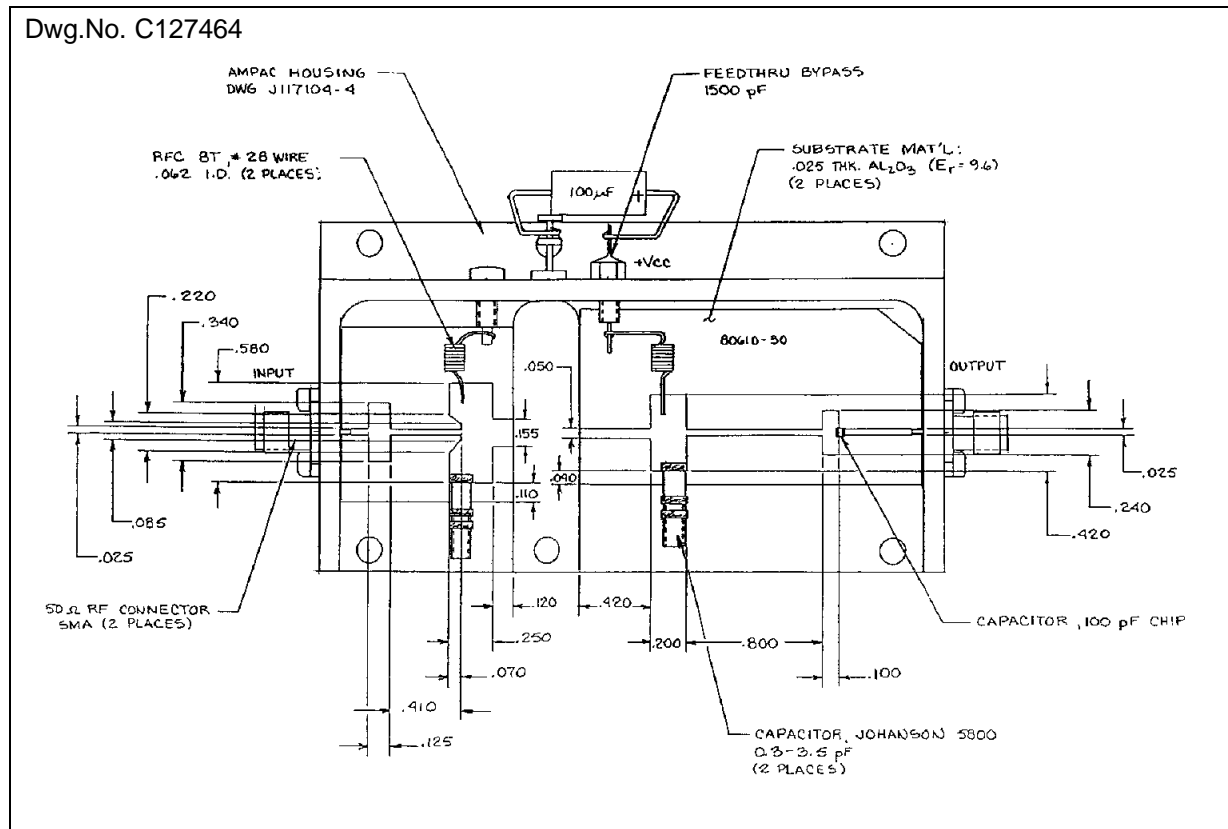
*Applies only to rated RF amplifier operation

ELECTRICAL SPECIFICATIONS ($T_{\text{case}} = 25^{\circ}\text{C}$)**STATIC**

| Symbol | Test Conditions | | Value | | | Unit |
|------------|------------------------|-------------------------|-------|------|------|------|
| | | | Min. | Typ. | Max. | |
| BV_{CBO} | $I_C = 20 \text{ mA}$ | $I_E = 0 \text{ mA}$ | 55 | — | — | V |
| BV_{EBO} | $I_E = 2 \text{ mA}$ | $I_C = 0 \text{ mA}$ | 3.5 | — | — | V |
| BV_{CER} | $I_C = 40 \text{ mA}$ | $R_{BE} = 10 \Omega$ | 55 | — | — | V |
| I_{CES} | $V_{BE} = 0 \text{ V}$ | $V_{CE} = 28 \text{ V}$ | — | — | 10 | mA |
| h_{FE} | $V_{CE} = 5 \text{ V}$ | $I_C = 2 \text{ A}$ | 15 | — | 150 | — |

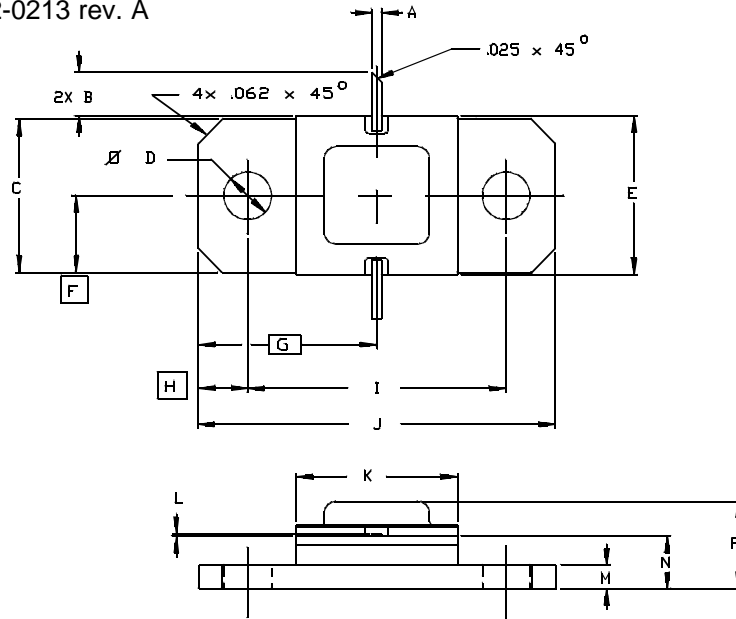
DYNAMIC

| Symbol | Test Conditions | | | Value | | | Unit |
|-----------|-----------------------------|--------------------------|-------------------------|-------|------|------|------|
| | | | | Min. | Typ. | Max. | |
| P_{OUT} | $f = 620 - 960 \text{ MHz}$ | $P_{IN} = 4.2 \text{ W}$ | $V_{CC} = 28 \text{ V}$ | 30 | — | — | W |
| η_C | $f = 620 - 960 \text{ MHz}$ | $P_{IN} = 4.2 \text{ W}$ | $V_{CC} = 28 \text{ V}$ | 50 | — | — | % |
| G_P | $f = 620 - 960 \text{ MHz}$ | $P_{IN} = 4.2 \text{ W}$ | $V_{CC} = 28 \text{ V}$ | 8.5 | — | — | dB |

TEST CIRCUIT

PACKAGE MECHANICAL DATA

Ref.: Dwg. No. 12-0213 rev. A



| SGS-THOMSON MICROELECTRONICS | | | CONT'D | | |
|------------------------------|----------------------|----------------------|--------|----------------------|----------------------|
| | MINIMUM Inches/mm | MAXIMUM Inches/mm | | MINIMUM Inches/mm | MAXIMUM Inches/mm |
| A | .020/0,51 | .030/0,76 | K | .395/10,03 | .415/10,54 |
| B | .100/2,54 | | L | .004/0,10 | .006/0,18 |
| C | .376/9,55 | .396/10,06 | M | .052/1,32 | .072/1,83 |
| D | .110/2,79 | .130/3,30 | N | .118/3,00 | .131/3,33 |
| E | .395/10,03 | .407/10,34 | P | | .230/5,84 |
| F | .193/4,90 | | | | |
| G | .450/11,43 | | | | |
| H | .125/3,18 | | | | |
| I | .640/16,26 | .660/16,76 | | | |
| J | .890/22,61 | .910/23,11 | | | |

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