

TAN15

15 Watts, 40 Volts, Pulsed Avionics 960 - 1215 MHz

GENERAL DESCRIPTION

The TAN15 is a COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 960-1215 MHz. The device has gold thin-film metallization and diffused ballasting for proven highest MTTF. The transistor includes input prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C² 175 Watts

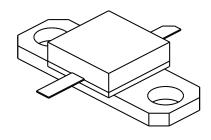
Maximum Voltage and Current

 $\begin{array}{ccc} BVces & Collector\ to\ Base\ Voltage & 50\ Volts \\ BVebo & Emitter\ to\ Base\ Voltage & 4.0\ Volts \\ Ic^2 & Collector\ Current & 2.0\ Amps \end{array}$

Maximum Temperatures

Storage Temperature $-65 \text{ to} + 150^{\circ}\text{C}$ Operating Junction Temperature $+200^{\circ}\text{C}$

CASE OUTLINE 55LT, STYLE 1



ELECTRICAL CHARACTERISTICS @ 25 °C

| SYMBOL | CHARACTERISTICS | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|---|---|---|-----------|-----------|-----|---------------------------|
| Pout Pin Pg η _c VSWR | Power Out Power Input Power Gain Collector Efficiency Load Mismatch Tolerance | F = 960-1215 MHz Vcc = 40 Volts PW = 20 µsec DF = 5% F = 1090 MHz | 15 7.0 | 8.0 40 | 3.0 | Watts Watts dB % |

| BVebo BVces h _{FE} θ j c ² | Emitter to Base Breakdown Collector to Emitter Breakdown DC - Current Gain Thermal Resistance | Ie = 5 mA Ic = 10 mA Ic = 10 mA, Vce = 5 V | 3.5 50 | | 1.0 | Volts Volts °C/W |
|---|--|--|-----------|--|-----|------------------------|
|---|--|--|-----------|--|-----|------------------------|

Note 1: At rated output power and pulse conditions

2: At rated pulse conditions

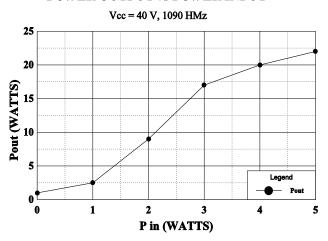
Issue December 1995

GHz TECHNOLOGY INC. RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE. GHZ RECOMMENDS THAT BEFORE THE PRODUCT(S) DESCRIBED HEREIN ARE WRITTEN INTO SPECIFICATIONS, OR USED IN CRITICAL APPLICATIONS, THAT THE PERFORMANCE CHARACTERISTICS BE VERIFIED BY CONTACTING THE FACTORY.

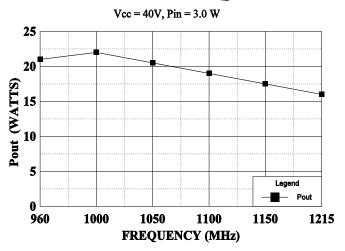


TAN15

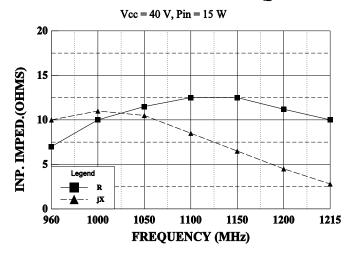
POWER OUTPUT vs POWER INPUT



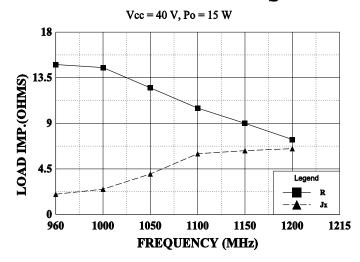
POWER OUTPUT VS FREQUENCY



SERIES INPUT IMPEDANCE vs FREQUENCY

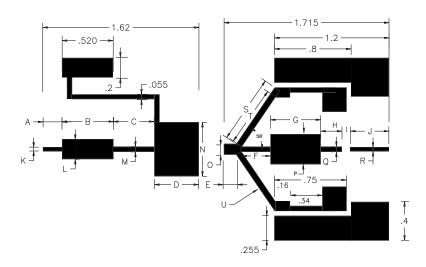


SERIES LOAD IMPEDANCE vs FREQUENCY





| REVISIONS | | | | | |
|-----------|-----|-------------|------|----------|--|
| ZONE | REV | DESCRIPTION | DATE | APPROVED | |



TAN 15 TEST CIRCUIT

| DIM | INCHES |
|-------------|--------|
| Α | .200 |
| В | .530 |
| l C | .430 |
| D | .460 |
| E | .125 |
| F | .300 |
| G | .520 |
| Н | .240 |
| I | .070 |
| J | .400 |
| K L M | .040 |
| L | .205 |
| М | .050 |
| Ν | .560 |
| 0 | .110 |
| Р | .310 |
| Q | .050 |
| R | .040 |
| S | .710 |
| S T U | .610 |
| U | .060 |

file:tan15ckt.dwg 8/17/95 jc

DIELECTRIC = 15 MIL THICK TFE Er = 2.55



| cage | DWG NO. | TAN 1 | 15 | REV _ |
|---------|---------|-------|-------|-------|
| 3. 31(2 | SCALE | 1/1 | SHEET | |