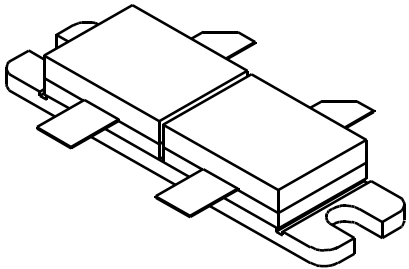




# TPR 1000

1000 Watts, 45 Volts, Pulsed  
Avionics 1090 MHz

|  |   |
|--|---|
| <p><b>GENERAL DESCRIPTION</b></p> <p>The TPR 1000 is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 1090 MHz. The device has gold thin-film metallization for proven highest MTF. The transistor includes input returns for <b>fast rise time</b>. Low thermal resistance package reduces junction temperature, extends life.</p>  | <p style="text-align: center;"><b>CASE OUTLINE</b><br/><b>55KV, Style 1</b><br/><b>Common Base</b></p>  |
| <p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p>Maximum Power Dissipation @ 25°C<sup>2</sup> <span style="float: right;">2900 Watts</span></p> <p><b>Maximum Voltage and Current</b></p> <p>BVces Collector to Base Voltage <span style="float: right;">65 Volts</span></p> <p>BVebo Emitter to Base Voltage <span style="float: right;">3.5 Volts</span></p> <p>Ic Collector Current <span style="float: right;">80 Amps</span></p> <p><b>Maximum Temperatures</b></p> <p>Storage Temperature <span style="float: right;">- 65 to + 200°C</span></p> <p>Operating Junction Temperature <span style="float: right;">+ 200°C</span></p> |   |

## ELECTRICAL CHARACTERISTICS @ 25 °C

| SYMBOL                  | CHARACTERISTICS         | TEST CONDITIONS | MIN  | TYP | MAX | UNITS |
|-------------------------|-------------------------|-----------------|------|-----|-----|-------|
| <b>Pout</b>             | Power Out               | F = 1090 MHz    | 1000 |     |     | Watts |
| <b>Pin</b>              | Power Input             | Vcc = 45 Volts  |      |     | 250 | Watts |
| <b>Pg</b>               | Power Gain              | PW = 10 μsec    | 6.0  |     |     | dB    |
| $\eta_c$                | Collector Efficiency    | DF = 1%         |      | 43  |     | %     |
| <b>t<sub>r</sub></b>    | Rise Time               |                 |      |     | 70  | ns    |
| <b>VSWR<sup>1</sup></b> | Load Mismatch Tolerance | F = 1030 MHz    |      |     | 9:1 |       |

|                                   |                                |                        |     |  |      |       |
|-----------------------------------|--------------------------------|------------------------|-----|--|------|-------|
| <b>Bvebo<sup>3,4</sup></b>        | Emitter to Base Breakdown      | Ie = 50mA              | 3.5 |  |      | Volts |
| <b>BVces<sup>4</sup></b>          | Collector to Emitter Breakdown | Ic = 100mA             | 65  |  |      | Volts |
| <b>h<sub>FE</sub><sup>4</sup></b> | DC - Current Gain              | Ic = 1000mA, Vce = 5 V | 10  |  |      |       |
| <b>θjc<sup>2</sup></b>            | Thermal Resistance             |                        |     |  | 0.06 | °C/W  |

- Note 1: At rated output power and pulse conditions
- 2: At rated pulse conditions
- 3: Cannot measure due to input return
- 4: Per Side

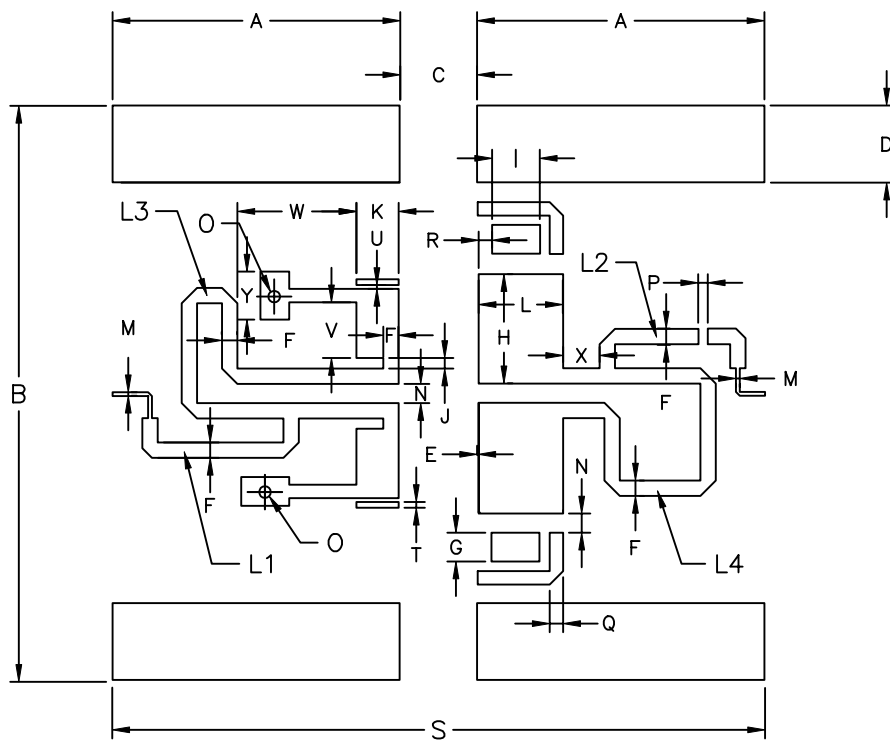
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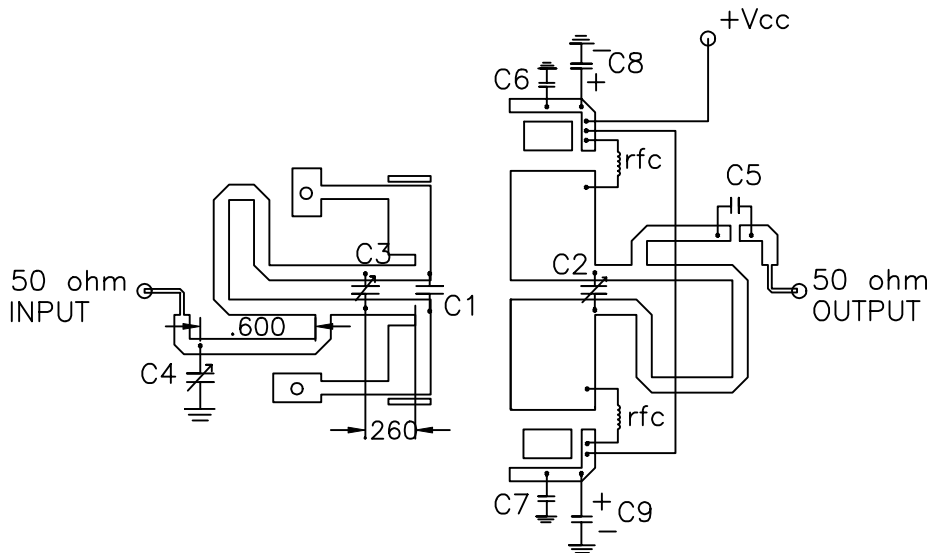
GHz Technology Inc. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 Tel. 408 / 986-8031 Fax 408 / 986-8120

REVISIONS

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



| DIM    | INCHES |
|--------|--------|
| A      | 1.500  |
| B      | 3.000  |
| C      | .406   |
| D      | .4045  |
| E      | .004   |
| F      | .080   |
| G      | .150   |
| H      | .569   |
| I      | .254   |
| J      | .054   |
| K      | .220   |
| L      | .440   |
| M      | .019   |
| N      | .100   |
| O      | ∅0.060 |
| P      | .050   |
| Q      | .074   |
| R      | .079   |
| S      | 3.406  |
| T      | .030   |
| U      | .020   |
| V      | .290   |
| W      | 0.615  |
| X      | 0.175  |
| Y      | 0.250  |
| L1, L2 | 1.05   |
| L3, L4 | 2.10   |



- C1=4.7pf ATC B
- C2=1-10pf Voltronics EJ10HV.
- C3,C4=.5-3.5pf Johnson
- C5=47pf ATC B
- C6,C7=82pf ATC B
- C8,C9=250MFD 60v

Board Type :  
 Ceramic  
 Er=10.2  
 Thk=.025inches.



CAGE  
 0PJR2

DWG NO.

TPR1000

REV -

SCALE

1/1

SHEET