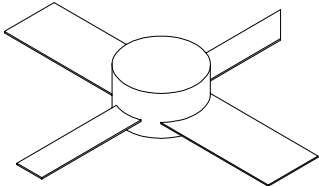

1015MP

15 Watts, 50 Volts
Avionics 1025 - 1150 MHz

| | | | | | | | | | | | | | | |
|--|--|------------------------------|----------|-------|-------------------------|-----------|----|-------------------|-------------|---------------------|-----------------|--------------------------------|---------|--|
| <p>GENERAL DESCRIPTION The 1015 MP is a COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 1025-1150 MHz. The device has gold thin-film metallization for proven highest MTTF. The transistor includes input prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.</p> | <p style="text-align: center;">CASE OUTLINE 55FW-1</p>  | | | | | | | | | | | | | |
| <p>ABSOLUTE MAXIMUM RATINGS Maximum Power Dissipation @ 25°C² 50 Watts Pk</p> <p>Maximum Voltage and Current</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">BVces</td> <td style="width: 55%;">Collector to Emitter Voltage</td> <td style="width: 30%; text-align: right;">65 Volts</td> </tr> <tr> <td>BVebo</td> <td>Emitter to Base Voltage</td> <td style="text-align: right;">3.5 Volts</td> </tr> <tr> <td>Ic</td> <td>Collector Current</td> <td style="text-align: right;">1.0 Amps Pk</td> </tr> </table> <p>Maximum Temperatures</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Storage Temperature</td> <td style="text-align: right;">- 65 to + 150°C</td> </tr> <tr> <td>Operating Junction Temperature</td> <td style="text-align: right;">+ 200°C</td> </tr> </table> | BVces | Collector to Emitter Voltage | 65 Volts | BVebo | Emitter to Base Voltage | 3.5 Volts | Ic | Collector Current | 1.0 Amps Pk | Storage Temperature | - 65 to + 150°C | Operating Junction Temperature | + 200°C | |
| BVces | Collector to Emitter Voltage | 65 Volts | | | | | | | | | | | | |
| BVebo | Emitter to Base Voltage | 3.5 Volts | | | | | | | | | | | | |
| Ic | Collector Current | 1.0 Amps Pk | | | | | | | | | | | | |
| Storage Temperature | - 65 to + 150°C | | | | | | | | | | | | | |
| Operating Junction Temperature | + 200°C | | | | | | | | | | | | | |

ELECTRICAL CHARACTERISTICS @ 25°C

| SYMBOL | CHARACTERISTICS | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|------------------|-------------------------|----------------------------|-----|-----|------|-------|
| P _{OUT} | Power Out | F = 1025-1150 MHz | 15 | | | W |
| P _{IN} | Power Input | V _{cc} = 50 Volts | | | 1.5 | W |
| P _G | Power Gain | PW = 10 μsec, DF = 1% | 10 | 11 | | dB |
| η _c | Efficiency | | | 40 | | % |
| VSWR | Load Mismatch Tolerance | F = 1090 MHz | | | 20:1 | |

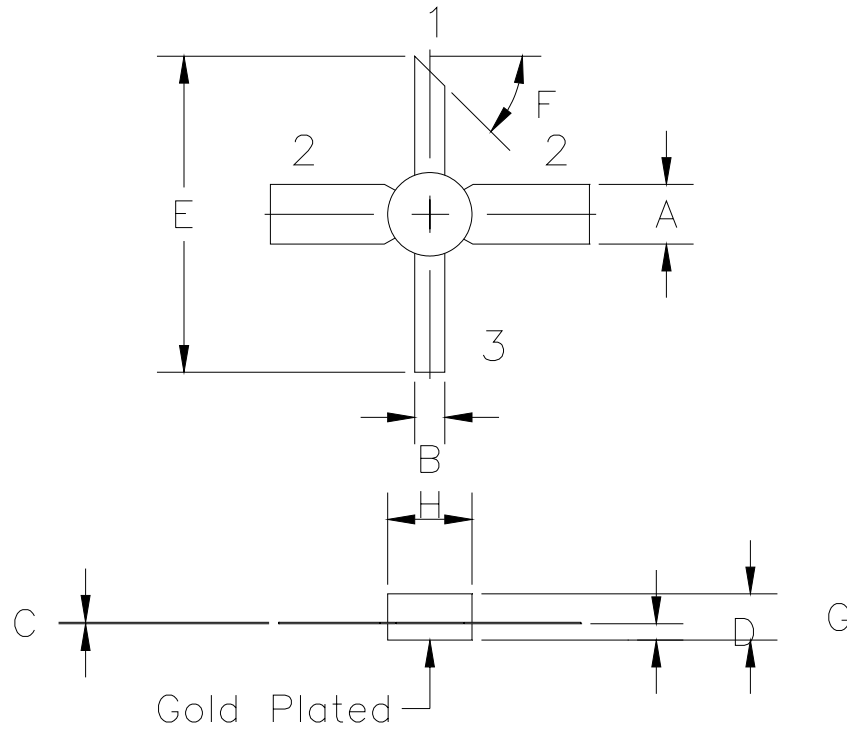
FUNCTIONAL CHARACTERISTICS @ 25°C

| | | | | | | |
|------------------------------|--------------------------------|---|-----|-----|-----|------|
| BVebo | Emitter to Base Breakdown | I _e = 5 mA | 3.5 | | | V |
| BVces | Collector to Emitter Breakdown | I _c = 15mA | 65 | | | V |
| Hfe | DC Current Gain | V _{ce} = 5V, I _c = 100 mA | 20 | | | |
| Cob | Output Capacitance | V _{cb} = 50 V, f = 1 MHz | | 5.0 | 7.5 | pF |
| θ _{jc} ² | Thermal Resistance | | | | 3.5 | °C/W |

Note 1: At rated output power and pulse conditions
 2: At rated pulse conditions

Initial Issue June, 1995

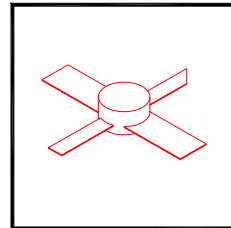
1015MP



STYLE 1:
 PIN1 = COLLECTOR
 2 = BASE (2X)
 3 = EMITTER

STYLE 2:
 PIN1 = COLLECTOR
 2 = EMITTER (2X)
 3 = BASE

| DIM | MILLIMETER | ±TOL | INCHES | ±TOL |
|-----|------------|------|----------|------|
| A | 5.08 | .13 | .200 | .005 |
| B | 7.11 DIA | .13 | .280 DIA | .005 |
| C | 0.13 | .02 | .005 | .001 |
| D | 1.40 | .13 | .055 | .005 |
| E | 26.92 | .64 | 1.060 | .025 |
| F | 45° | 5° | 45° | 5° |
| G | 3.94 | REF | .155 | REF |
| H | 2.54 | .13 | .100 | .005 |



GHz TECHNOLOGY
 RF - MICROWAVE SILICON POWER TRANSISTORS

DWG NO.

55FW