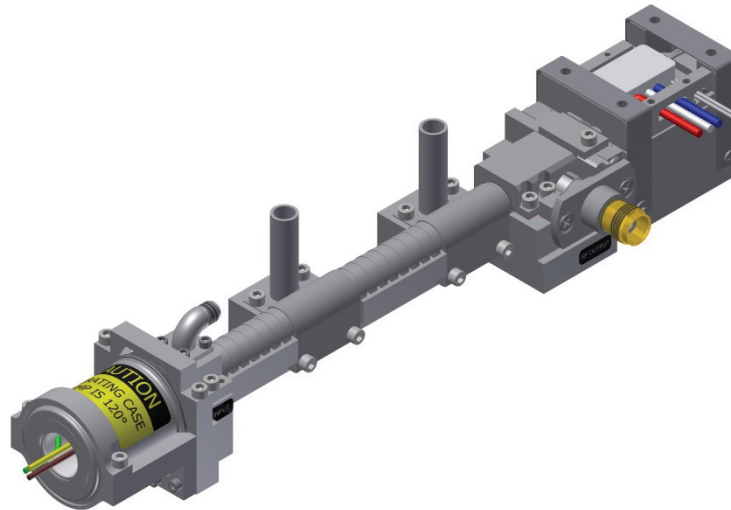


# MEC 3106

## Pulse TWT

### 8.0 GHz – 12.0 GHz

- 10% Typical Maximum Duty
- 900 W Minimum Power
- 8.0 to 12.0 GHz
- -40° to 85° C
- 438 W Typ. Prime Power @10%
- 26-38 dB Typical Gain
- 9.9" L x 1.6" W x 1.57" H  
(25.1 x 4.1 x 4 cm)



#### RF Performance

| Freq (GHz) | Typ. Sat. Power Output (W) | Min. Spec. Power Output (W) | Typ. Gain @ Spec. Power (dB) |
|------------|----------------------------|-----------------------------|------------------------------|
| 8.0        | 1000                       | 900                         | 38                           |
| 8.5        | 1000                       | 900                         | 34                           |
| 9.0        | 1100                       | 1000                        | 33                           |
| 9.5        | 1250                       | 1000                        | 31                           |
| 10.0       | 1300                       | 1000                        | 31                           |
| 10.5       | 1300                       | 1000                        | 29                           |
| 11.0       | 1300                       | 1000                        | 27                           |
| 11.5       | 1200                       | 1000                        | 27                           |
| 12.0       | 1000                       | 900                         | 26                           |

Typical power output is shown to illustrate capability.  
Typical gain shown is without equalizer.

#### Typical Operating Conditions

| Element        | Voltage  | Current  | Power Supply Requirements |              |                |
|----------------|----------|----------|---------------------------|--------------|----------------|
|                |          |          | Voltage Min.              | Voltage Max. | Current Max.   |
| Heater         | -6.3 Vdc | 1.75 A   | -6.1 Vdc                  | -6.5 Vdc     | 2.0 A          |
| Helix          |          |          |                           |              |                |
| with RF        | Ground   | 300 mApk | Ground                    | Ground       | 325 mApk @ 10% |
| without RF     | Ground   | 60 mApk  | Ground                    | Ground       | 325 mApk @ 10% |
| Grid On        | 100 Vpk  | 1.0 mApk | 90 Vpk                    | 200 Vpk      | 30 mApk        |
| Grid Off       | -200 Vdc | 0 mA     | -200 Vdc                  | -500 Vdc     | 1.0 mA         |
| Cathode (Ek)   | -6.6 kV  | 940 mApk | -6.5 kV                   | -7.0 kV      | 1.0 Apk        |
| Collector w/RF |          |          |                           |              |                |
| Coll. #1       | 4.90 kV  | 318 mApk | 71% x Ek ±2%              |              | 500 mApk       |
| Coll. #2       | 3.04 kV  | 242 mApk | 46% x Ek ±2%              |              | 1.0 Apk        |
| Coll. #3       | 1.91 kV  | 76 mApk  | 29% x Ek ±2%              |              | 1.0 Apk        |

Cathode voltage is measured with respect to ground.  
Heater, Collector, and Grid voltages are measured with respect to Cathode.

#### Performance

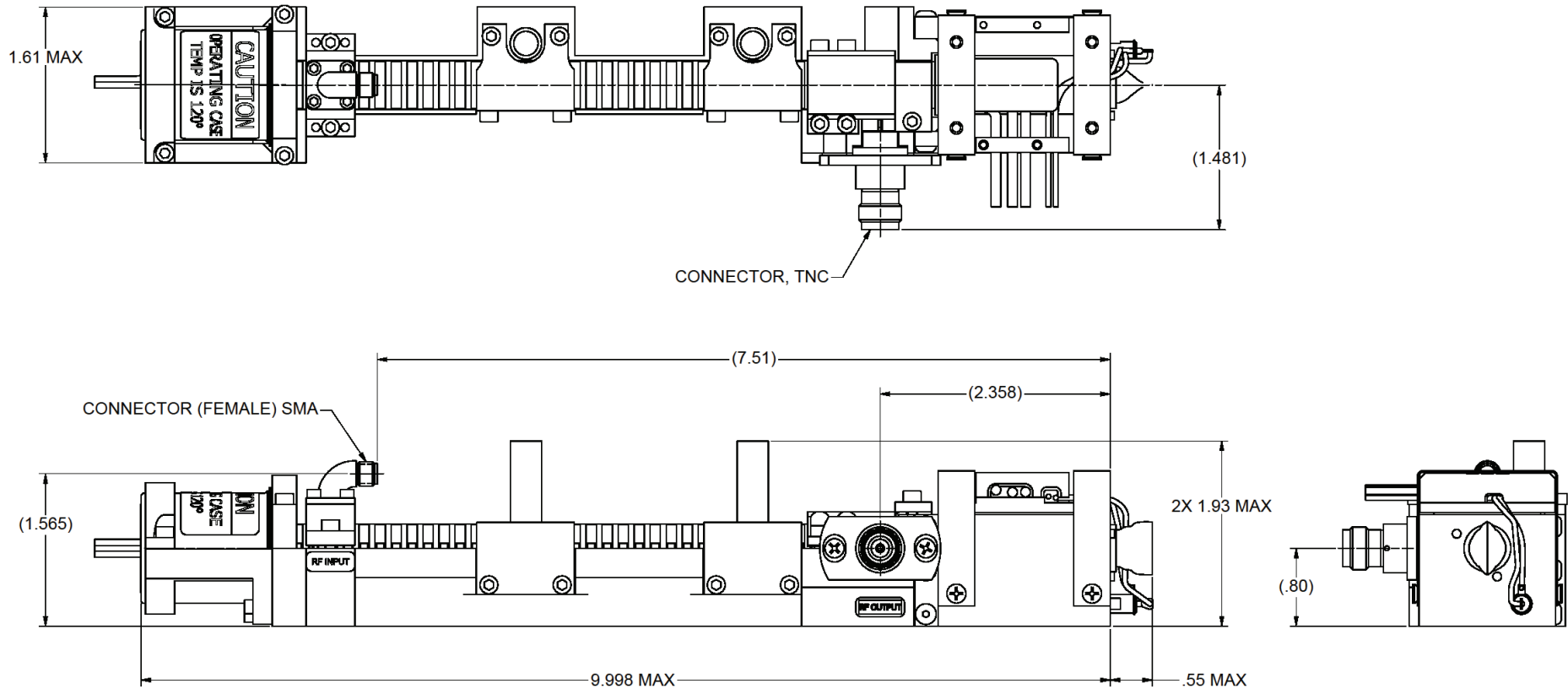
|  | Typical | Spec    |
|--|---------|---------|
| Input VSWR.....                        | 1.6:1   | 2.0:1   |
| Output VSWR.....                       | 1.83:1  | 2.0:1   |
| Max. Duty .....                        | 10%     | 10%     |
| Max. Pulsewidth .....                  | 50 μs   | 50 μs   |
| Grid Capacitance.....                  | 53 pF   | 60 pF   |
| Min. Harmonic Separation.....          | -12 dBc | -10 dBc |
| Noise Power Density<br>(dBm/MHz) ..... | -27     | -20     |
| Prime Power.....                       | 438 W   | 500 W   |

This model number is controlled by the International Traffic in Arms Regulations, and can only be exported via a U.S. Department of State export license. They may not be transferred, transshipped on a non-continuous voyage, or otherwise be disposed of in any other country, either in their original form or after being incorporated into other end-items, without the prior written approval of the U.S. Department of State.

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NOTES:

1. THERMOSTAT OPTIONS: N/C OR N/O.



SUBJECT TO CHANGE W/O NOTICE ISO 9001:2008 Registered

TELEDYNE MICROWAVE SOLUTIONS  
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TITLE

MEC 3106

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