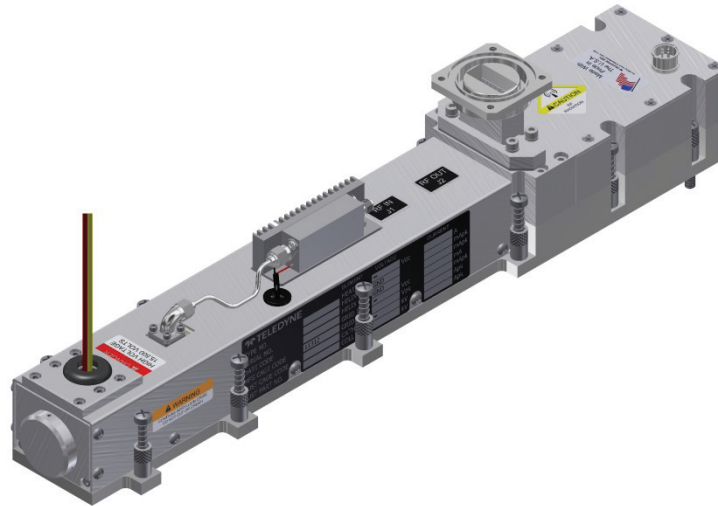


# MTI 3948

## Pulse TWT

### 8.8 GHz – 10.5 GHz

- 2% Maximum Duty
- 8200 W Minimum Power
- 8.8 to 10.5 GHz
- -40° to 85° C
- 621 W Typ. Prime Power @2%
- 50-51 dB Typical Gain
- 15.4" L x 2.75" W x 3.25" H  
(39.2 x 7 x 8.3 cm)
- ±15° Phase Match



#### RF Performance

Freq (GHz)	Typ. Sat. Power Output (W)	Min. Spec. Power Output (W)	Typ. Gain @ Spec. Power (dB)
8.8	8510	8200	50
8.9	8700	8600	50
9.0	8700	8700	51
9.2	8800	8700	51
9.4	8900	8700	51
9.6	8900	8700	51
9.8	8900	8700	51
10.0	8900	8700	51
10.1	8900	8700	51
10.2	8800	8700	51
10.3	8800	8700	51
10.4	8800	8700	51
10.5	8700	8500	50

#### Typical Operating Conditions

Element	Voltage	Current	Power Supply Requirements		
			Voltage Min.	Voltage Max.	Current Max.
Heater	-6.3 Vdc	2.2 A	-6.1 Vdc	-6.5 Vdc	2.5 A
Helix					
with RF	Ground	470 mApk	Ground	Ground	800 mApk @ 2%
without RF	Ground	75 mApk	Ground	Ground	800 mApk @ 2%
Grid On	250 Vpk	0	50 Vpk	250 Vpk	30 mApk
Grid Off	-300 Vdc	0	-300 Vdc	-500 Vdc	0.5 mA
Cathode (Ek)	-14.2 kV	2.5 Apk	-14 kV	-15 kV	2.5 Apk
Collector w/RF					
Coll. #1	11 kV	2.13 Apk	75% x Ek ±2%		2.5 Apk

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

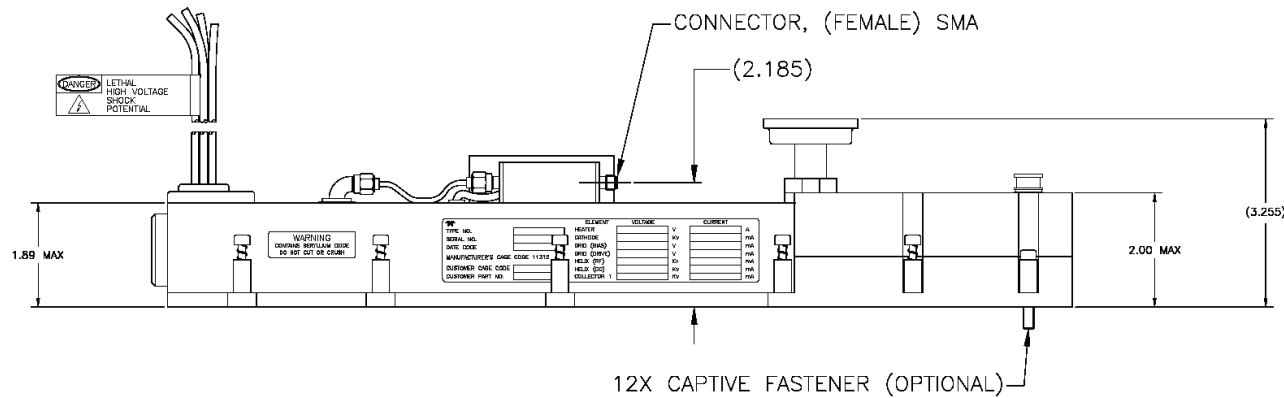
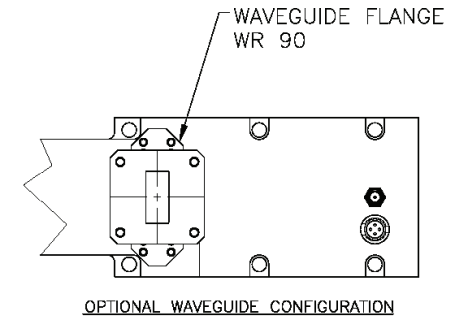
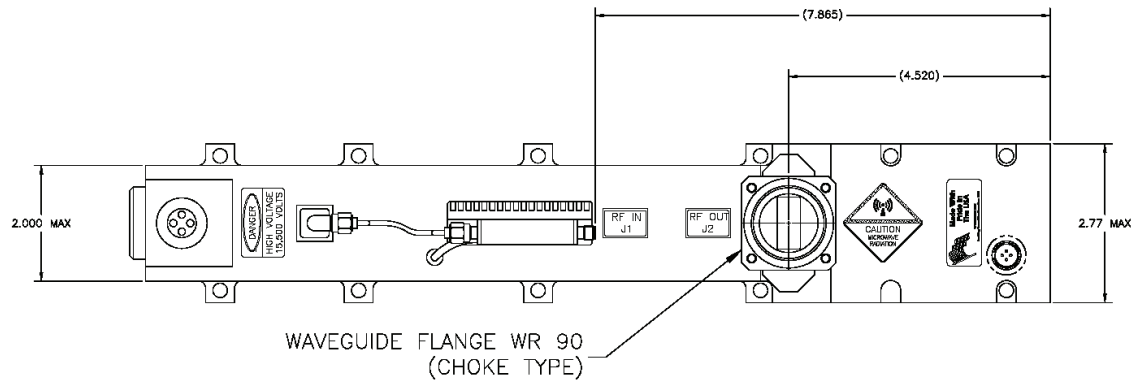
Typical power output is shown to illustrate capability.  
Typical gain shown is without equalizer.  
Higher gain is available with SSA.

Performance	Typical	Spec
Input VSWR.....	1.5:1	2.0:1
Output VSWR.....	1.5:1	1.8:1
Max. Duty .....	—	2%
Max. Pulsewidth .....	—	50 μs
Grid Capacitance.....	40 pF	60 pF
Min. Harmonic Separation.....	-12 dBc	-10 dBc
Noise Power Density (dBm/MHz) .....	-14	-10
Prime Power.....	621 W	750 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.

NOTES:

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



SUBJECT TO CHANGE W/O NOTICE

ISO 9001:2008 Registered

TELEDYNE MICROWAVE SOLUTIONS  
TWT Products  
11361 Sunrise Park Dr., Rancho Cordova, CA 95742 916) 638-3344

TITLE

MTI 3948

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