

**TYPICAL CHARACTERISTICS  
ON  
LM-12-20-5W-2**

**PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER LM-12-20-5W-2 OPTION M IS AN RF POWER LIMITER WITH A FREQUENCY RANGE OF 1.0 TO 2.0 GHz, AVERAGE POWER OF 5 WATTS, LEAKAGE POWER OF LESS THAN 100 mW, INSERTION LOSS OF LESS THAN 1 dB AND VSWR OF 2.0:1. THE SIZE IS 1.00" x 1.00" x 0.40".**



**Friday, September 20, 2024**

**Designed and Reported By: M. Laulis**

**Tested By:**

**John B.**

## TYPICAL CHARACTERISTICS ON LM-12-20-5W-2

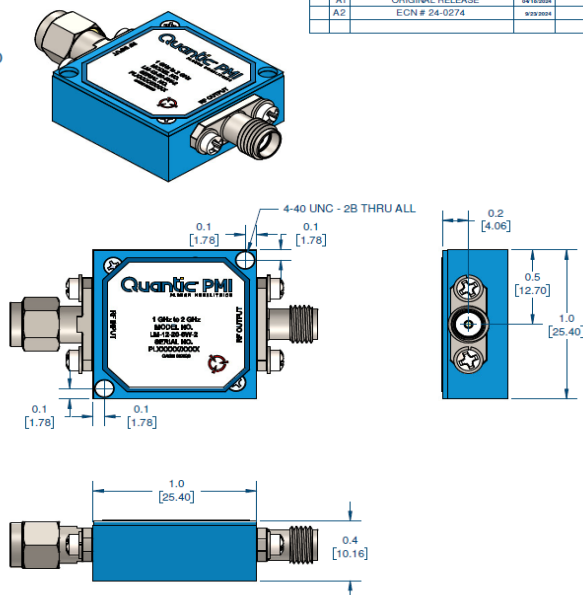
## Outline Drawing

## DESCRIPTION:

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER LM-12-20-5W-2 OPTION M IS AN RF POWER LIMITER WITH A FREQUENCY RANGE OF 1.0 TO 2.0 GHz, AVERAGE POWER OF 5 WATTS, LEAKAGE POWER OF LESS THAN 100 mW, INSERTION LOSS OF LESS THAN 1 dB AND VSWR OF 2.0:1. THE SIZE IS 1.00" x 1.00" x 0.40".

**SPECIFICATIONS:**

- FREQUENCY RANGE: \_\_\_\_\_ 1.0 GHz TO 2.0 GHz
- INSERTION LOSS: \_\_\_\_\_ 1.0 dB MAX
- INPUT/OUTPUT VSWR: \_\_\_\_\_ 2.0:1 MAX
- LEAKAGE POWER: \_\_\_\_\_ +15 dBm MAX  
+13 dBm TYP
- PEAK POWER: \_\_\_\_\_ 400 W MAX (1us PW, 0.1% Duty Cycle)
- AVERAGE POWER: \_\_\_\_\_ 5 W CW MAX
- SIZE: \_\_\_\_\_ 1.00" X 1.00" X 0.40"
- WEIGHT: \_\_\_\_\_ 1.5 oz TYP
- CONNECTOR: \_\_\_\_\_ SMA MALE INPUT  
SMA FEMALE OUTPUT
- FINISH: \_\_\_\_\_ PAINTED BLUE



### ENVIRONMENTAL RATINGS:

- **TEMPERATURE:** \_\_\_\_\_ +10 °C TO +55 °C (OPERATING)  
 \_\_\_\_\_ -30 °C TO +50 °C (NON-OPERATING)
- **HUMIDITY:** \_\_\_\_\_ MIL-STD-202F, METHOD 103B COND. B
- **SHOCK:** \_\_\_\_\_ MIL-STD-202F, METHOD 213B COND. B
- **VIBRATION (5-55 Hz, SINE):** \_\_\_\_\_ 3.55g
- **ALTITUDE:** \_\_\_\_\_ MIL-STD-202F, METHOD 105C COND. B
- **TEMPERATURE CYCLING:** \_\_\_\_\_ MIL-STD-202F, METHOD 107A COND. A

NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE  
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

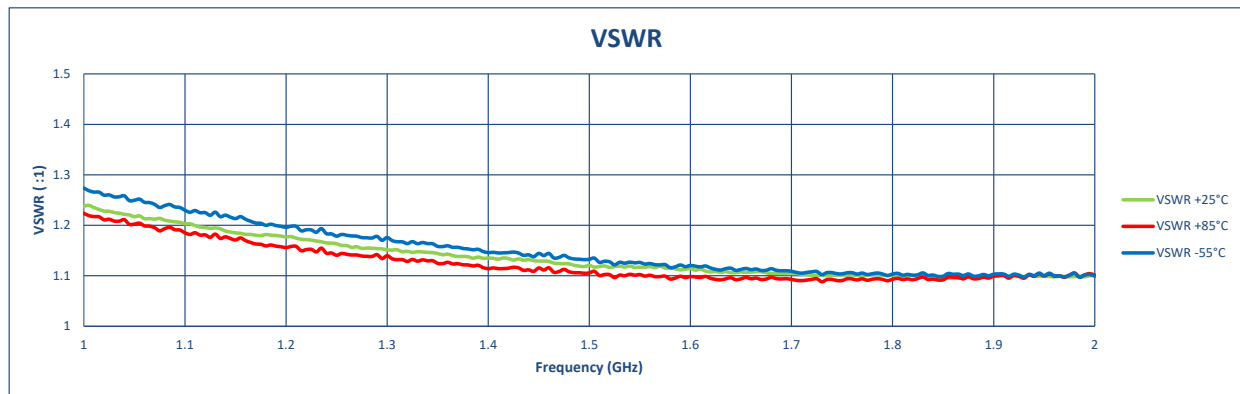
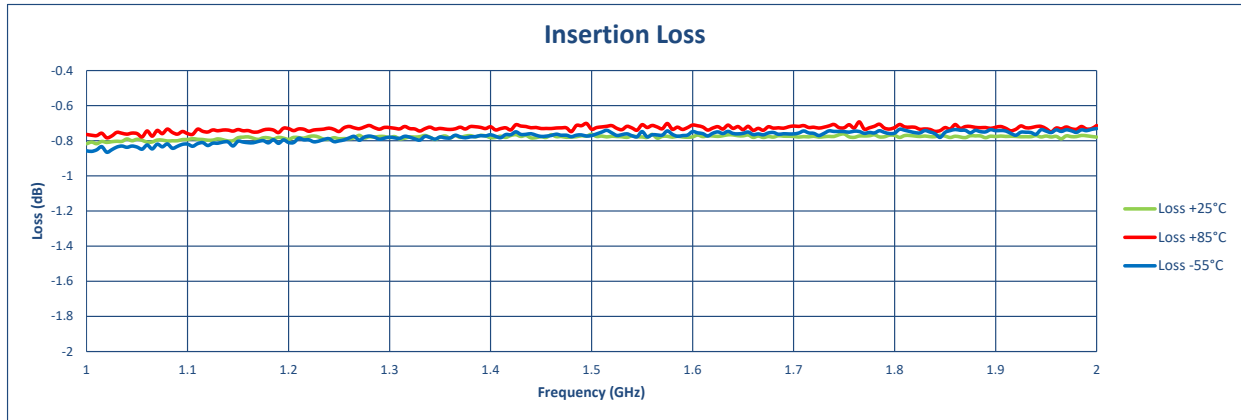
|                                                                                                                                                 |  |                                                                                                                                                                                                                                                   |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| PREPARED BY:<br>PROJECT NUMBER:<br>PROJECT NAME:<br>PROJECT LOCATION:<br>PROJECT DATE:<br>PROJECT TIME:<br>PROJECT STATUS:<br>PROJECT COMMENTS: |  | PROJECT NO.:<br>PROJECT NAME:<br>PROJECT LOCATION:<br>PROJECT DATE:<br>PROJECT TIME:<br>PROJECT STATUS:<br>PROJECT COMMENTS:                                                                                                                      |  |
| MATERIAL:<br>QUANTITY:<br>UNIT:<br>NEXT DAY:<br>USED ON:                                                                                        |  | APPROVALS:<br>DATE:<br>REVIEWER:<br>DATE:<br>ISSUED:<br>DATE:                                                                                                                                                                                     |  |
| APPLICATION:<br>NEXT DAY:<br>USED ON:                                                                                                           |  | TITLE:<br>OUTLINE:<br>LM-12-20-SW-2<br>SIZE:<br>PRICE:<br>DWS NO:<br>27048600<br>REV:<br>A2<br>B2<br>C2<br>D2<br>E2<br>F2<br>G2<br>H2<br>I2<br>J2<br>K2<br>L2<br>M2<br>N2<br>O2<br>P2<br>Q2<br>R2<br>S2<br>T2<br>U2<br>V2<br>W2<br>X2<br>Y2<br>Z2 |  |

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**Test Specifications**

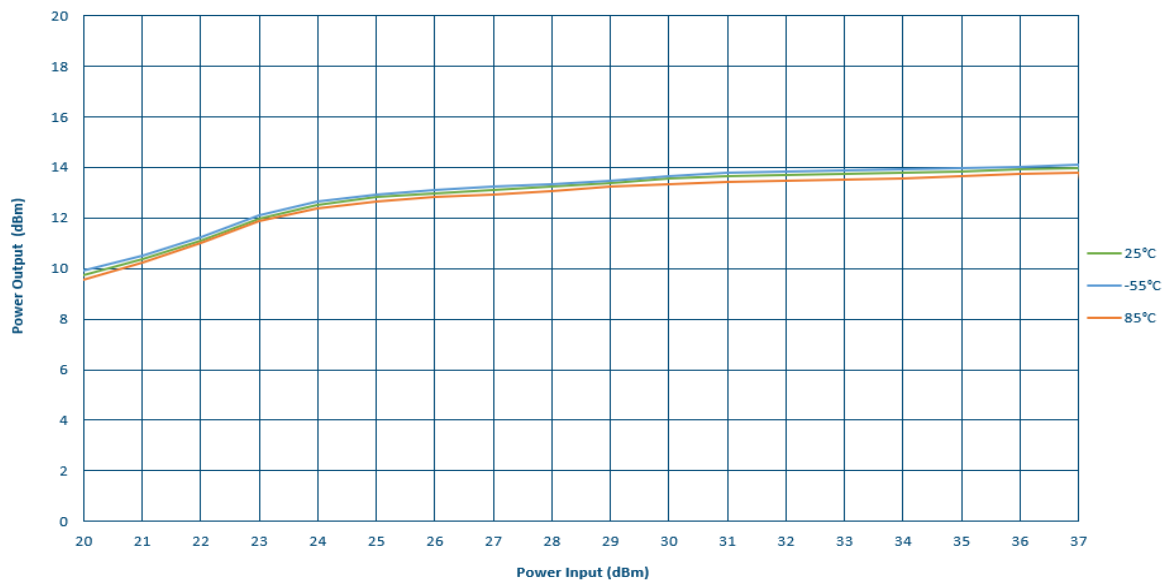
| TEST<br>ITEM NO. | PARAMETERS         | SPECIFIED VALUE                                                  | Test Results         |                      |                      |
|------------------|--------------------|------------------------------------------------------------------|----------------------|----------------------|----------------------|
|                  |                    |                                                                  | +25°C                | +85°C                | -55°C                |
| 1                | Frequency Range:   | 1 GHz to 2 GHz                                                   | 1 GHz to 2 GHz       | 1 GHz to 2 GHz       | 1 GHz to 2 GHz       |
| 2                | Insertion Loss:    | 1 dB Max.                                                        | 0.82 dB<br>See Graph | 0.78 dB<br>See Graph | 0.86 dB<br>See Graph |
| 3                | VSWR:              | 2.0:1 Max.                                                       | 1.24:1<br>See Graph  | 1.22:1<br>See Graph  | 1.27:1<br>See Graph  |
| 4                | RF Power Handling: | 5 W CW MAX<br>400 W PEAK MAX<br>(1 $\mu$ s PW / 0.1% Duty Cycle) | 5 W CW               | 5 W CW               | 5 W CW               |
| 5                | Impedance          | 50 $\Omega$                                                      | 50 $\Omega$          |                      |                      |
| 6                | Leakage Power:     | +13 dBm TYP<br>+15 dBm MAX                                       | 13.97 dBm            | 14.09 dBm            | 13.79 dBm            |

# TYPICAL CHARACTERISTICS ON LM-12-20-5W-2



## Leakage Power

### High Power Test Graph @ 1 GHz

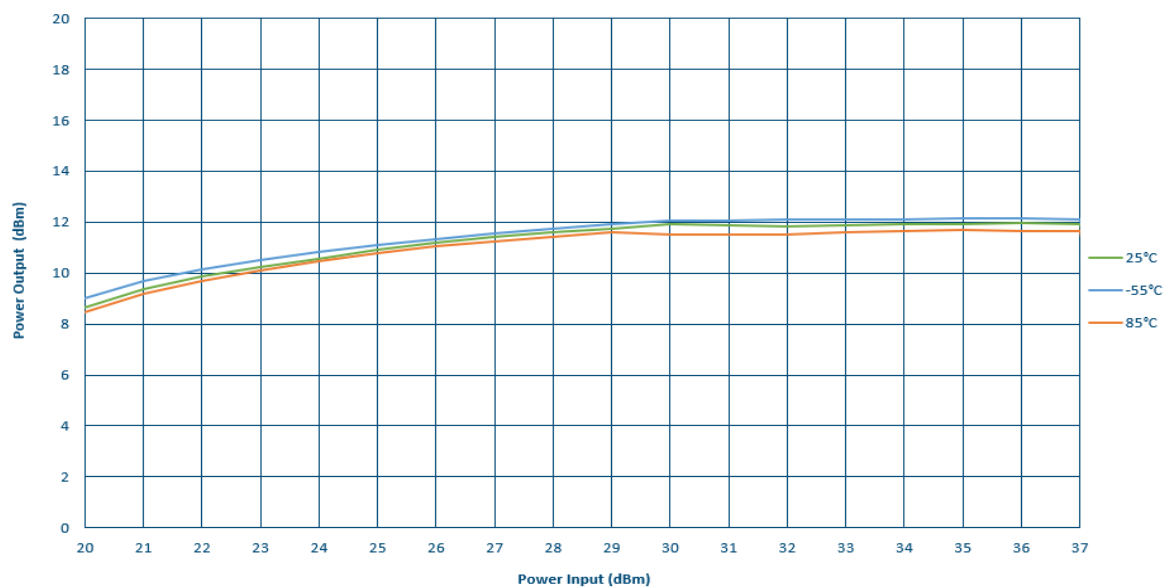


# TYPICAL CHARACTERISTICS

## ON

### LM-12-20-5W-2

**High Power Test Graph @ 2 GHz**



## Peak Power

**Peak Power Test**

