

## E-Band, Active Frequency Multiplier

WR-12/X4/55-90GHz /22dBm Output Power

Model: TMAM-055090-0423-12

TMAM-055090-0423-12 is an active X4 frequency multiplier. The multiplier has an input frequency of 13.75 to 22.5 GHz with a typical input power of +5 dBm and an output frequency of 55 to 90 GHz with a typical output power of +22dBm. The DC power requirement for the multiplier is +12 V DC/440 mA. The input port configuration is a female 2.92mm connector and the output is a WR-12 waveguide with a UG-387/U-M anti-cocking flange.

### Features:

- Output Frequency: 55-90 GHz
- Output Power: 22dBm Typ
- Low power consumption

### Applications:

- Frequency Extenders
- THz Systems

### 电气特性 Electrical Characteristics:

| 参数 Parameter              | Min   | Typ | Max  | 单位 Units |
|---------------------------|-------|-----|------|----------|
| 输出频率 Output Frequency     | 55    |     | 90   | GHz      |
| 输出功率 Output Power         |       | 22  |      | dBm      |
| 输入频率 Input Frequency      | 13.75 |     | 22.5 | GHz      |
| 输入功率 Input Power          | 3     | 5   | 7    | dBm      |
| 倍频次数 Multiply Factor      |       | 4   |      |          |
| 谐波抑制 Harmonic Suppression |       | -20 |      | dBc      |
| 供电电压 DC Voltage           |       | 12  |      | V        |
| 供电电流 DC Supply Current    |       | 440 |      | mA       |

### 机械特性 Mechanical Specifications:

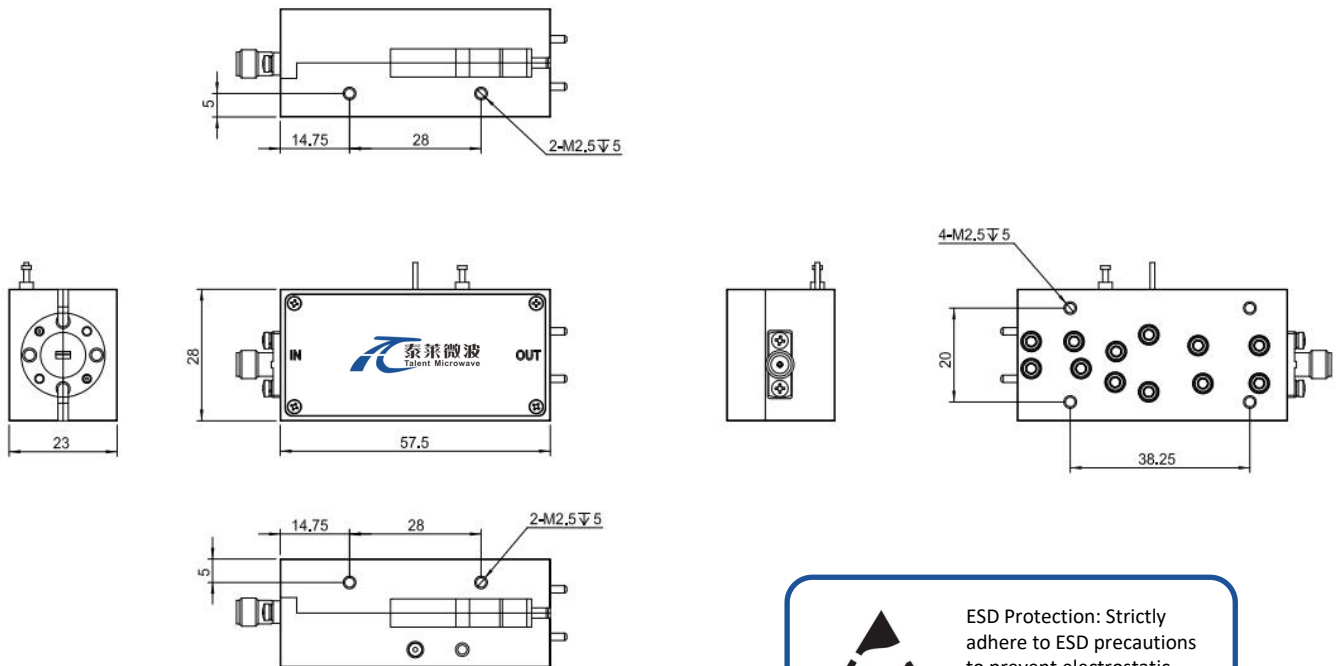
| 参数 Parameter          | 指标 Value       | 单位 Units |
|-----------------------|----------------|----------|
| 输出接口 Output Connector | WR-12/UG-387/U |          |
| 输入接口 Input Connector  | 2.92mm Female  |          |
| 直流偏置 DC Bias          | Solder Pin     |          |
| 尺寸 Size               | 57.5*28*23     | mm       |

## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter                 | 指标 Value             |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage   | +15 V                |
| 输入功率 RF Input Power          | +10 dBm              |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

## 外形图 Outline Drawing:

Unit:mm



ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

## 温度环境 Environmental Conditions:

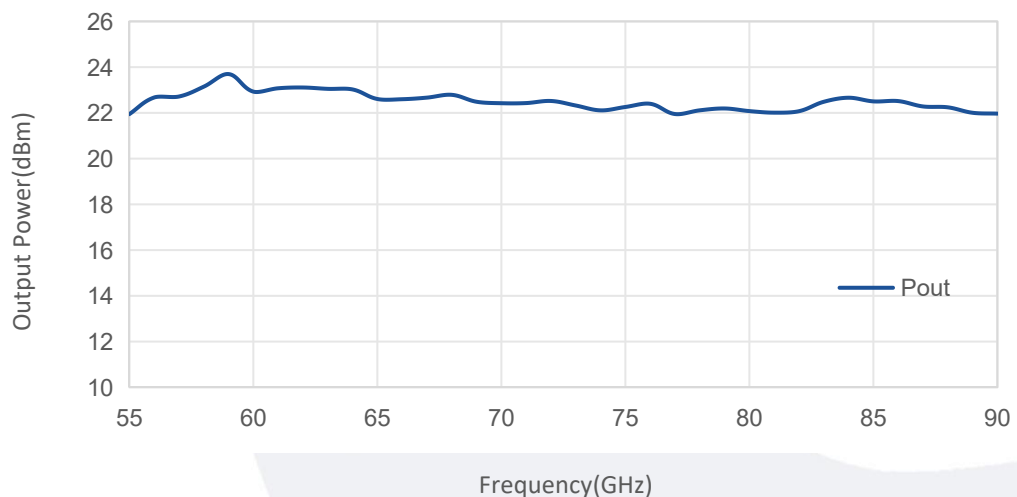
| 参数 Parameter                       | Min                                                 | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature         | -10                                                 |     | +65 | °C       |
| 存储温度 Non-operating Temperature     | -45                                                 |     | +85 | °C       |
| 相对湿度 Relative humidity             |                                                     | 95  |     | %        |
| 海拔 Altitude                        | 50,000                                              |     |     | feet     |
| 震动 Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis |     |     |          |
| 冲击 Shock(non operating)            | 20G for 11msc half sin wave,3 axis both directions  |     |     |          |

## 订货信息 Ordering Information:

| 标准型号 Base Number    | 描述 Description                                                                      | 版本号 Revision |
|---------------------|-------------------------------------------------------------------------------------|--------------|
| TMAM-055090-0423-12 | Active Multiplier,X4,55-90GHz,<br>Output Power:22dBm, WR-12/UG-387/U, 2.92mm Female | Rev.1.0      |

## 典型曲线 Typical Performance Data:

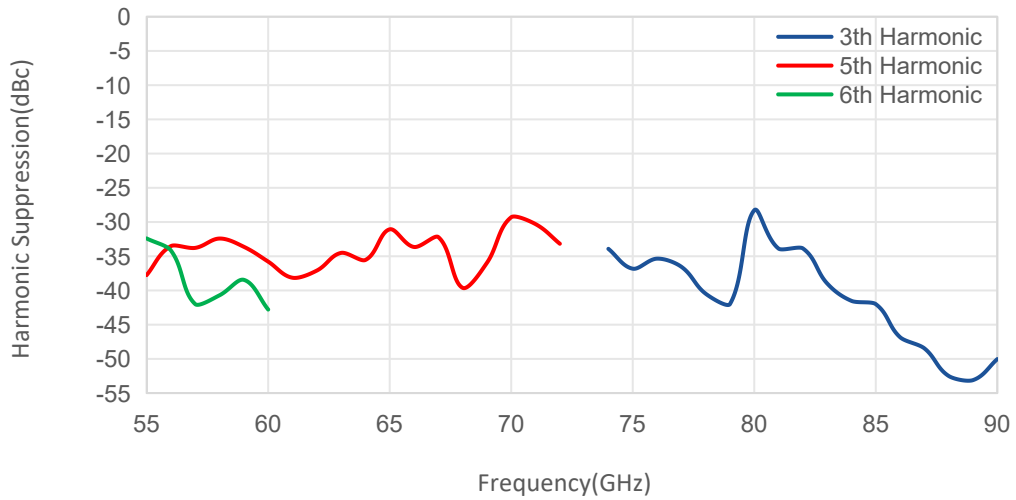
Output Power vs Frequency



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data:

### Harmonic Suppression vs Frequency



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.