

## Product Features

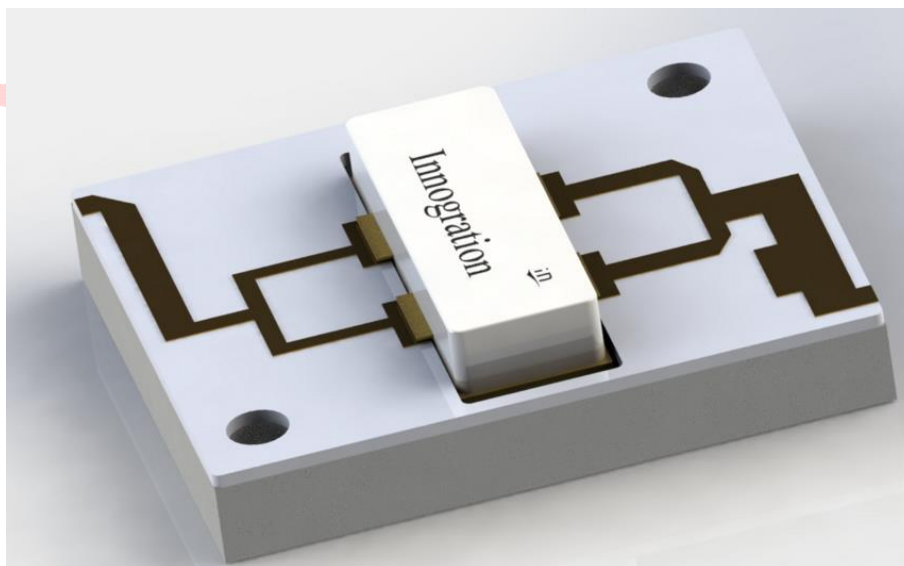
150-1500MHz  
50W CW @28V  
>50% Drain Efficiency@28V  
>12dB power gain  
50ohm in and out, 60\*90mm, screw down  
Linear or saturated use  
Device used: SL3019VS

## Applications

HF/VHF/UHF/L band Power amplifier  
UAV Jammer  
ISM  
Land Mobile

## Description

The SMPA0115-50H is designed for VHF to L band comm, test and measurement and other ISM applications at 150-1500MHz. This Amplifier pallet is suitable for use in linear and saturated applications, and 50ohm fully matched at input and output, drop-in placement by screwing it down and 100% RF test, it enables easier power combination to reach higher power with high production yield as part of customer's power amplifier system.



**Electrical Specifications @V<sub>ds</sub>=28V, T=25°C, 50Ωsystem**

| PARAMETER                   | UNIT | MIN | TYP  | MAX  | SYMBOL           |
|-----------------------------|------|-----|------|------|------------------|
| Operating Frequency         | MHz  | 150 | -    | 1500 | f <sub>o</sub>   |
| Operating Bandwidth         | MHz  |     | 1350 | -    | OBW              |
| CW Output Power             | W    | 50  |      | -    | P <sub>out</sub> |
| Power Gain                  | dB   | 12  |      | -    | G <sub>p</sub>   |
| Gain Flatness               | dB   | -   | ± 2  | -    | G <sub>F</sub>   |
| Input Return Loss           | dB   | -   | -    | -10  | S <sub>11</sub>  |
| Operating Voltage           | V    | -   | 28   | 36   | V <sub>DS</sub>  |
| Quiescent Current           | mA   | -   | 100  | -    | I <sub>DQ</sub>  |
| Efficiency@P <sub>sat</sub> | %    | 50  |      | -    | Eff              |

**Environmental Characteristics**

| PARAMETER                          | UNIT | MIN | TYP | MAX | SYMBOL           |
|------------------------------------|------|-----|-----|-----|------------------|
| Operating Case Temperature         | °C   | -20 | -   | 85  | T <sub>a</sub>   |
| Storage Temperature                | °C   | -40 |     | 100 | T <sub>stg</sub> |
| Relative humidity w/o condensation | %    | -   | -   | 95  | RH               |

**Mechanical Specifications**

| PARAMETER           | UNIT | VALUE              |
|---------------------|------|--------------------|
| Dimensions(L × W )  | mm   | 90*60              |
| Weight              | g    | TBD                |
| RF Input Connector  | -    | N/A                |
| RF Output Connector | -    | N/A                |
| Cooling             | -    | External Heat-sink |

## Typical performance

- CW performance:  $V_{ds}=+28V$ ,  $IDQ=200mA$ ,  $T=25^{\circ}C$

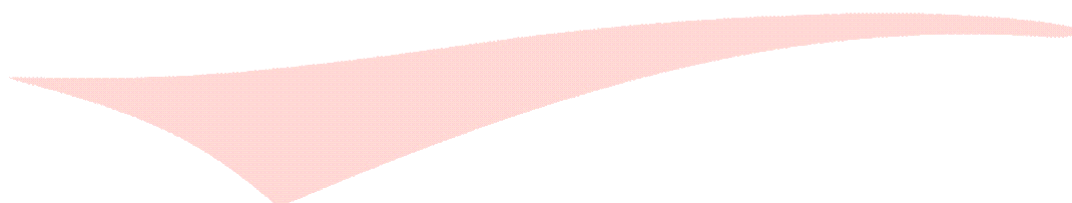
| Freq(MHz) | Pin(dBm) | Pout(dBm) | Pout(W) | IDS(A) | Gain(dB) | Eff(%) |
|-----------|----------|-----------|---------|--------|----------|--------|
| 100       | 32.6     | 45.7      | 37.15   | 1.79   | 13.1     | 74.13  |
| 120       | 32.6     | 48        | 63.10   | 3.19   | 15.4     | 70.64  |
| 150       | 32.5     | 49.4      | 87.10   | 4.63   | 16.9     | 67.18  |
| 200       | 32.78    | 50.43     | 110.41  | 5.28   | 17.65    | 74.68  |
| 300       | 32.94    | 48.54     | 71.45   | 3.5    | 15.6     | 72.91  |
| 400       | 31.87    | 50.31     | 107.40  | 5.55   | 18.44    | 69.11  |
| 500       | 33.71    | 47.69     | 58.75   | 2.85   | 13.98    | 73.62  |
| 600       | 37.06    | 49.06     | 80.54   | 4.61   | 12       | 62.39  |
| 700       | 37.99    | 49.35     | 86.10   | 4.85   | 11.36    | 63.40  |
| 800       | 37.49    | 49.69     | 93.11   | 6.53   | 12.2     | 50.92  |
| 900       | 37.49    | 49.48     | 88.72   | 6.27   | 11.99    | 50.53  |
| 1000      | 36.29    | 48.99     | 79.25   | 4.29   | 12.7     | 65.98  |
| 1100      | 36.32    | 50.49     | 111.94  | 5.67   | 14.17    | 70.51  |
| 1200      | 34.85    | 49.23     | 83.75   | 4.39   | 14.38    | 68.14  |
| 1300      | 35.06    | 48.74     | 74.82   | 4.13   | 13.68    | 64.70  |
| 1400      | 35.19    | 47.76     | 59.70   | 4.17   | 12.57    | 51.13  |
| 1500      | 34.83    | 49.03     | 79.98   | 5.43   | 14.2     | 52.61  |
| 1550      | 34.86    | 48.02     | 63.39   | 4.25   | 13.16    | 53.27  |
| 1600      | 36.06    | 46.23     | 41.98   | 3.76   | 10.17    | 39.87  |

## Revision History

Document revision history

| Date      | Revision | Datasheet Status      |
|-----------|----------|-----------------------|
| 2026/6/26 | Rev 1.0  | Preliminary Datasheet |
|           |          |                       |
|           |          |                       |

Application data based on YHG-26-21



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