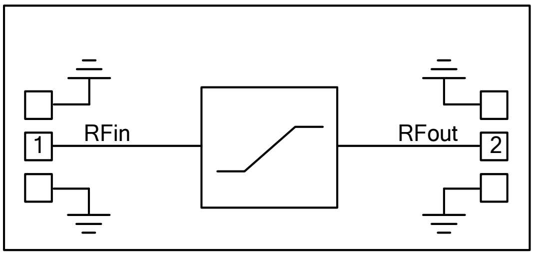
**METDA Semiconductor**

# NC1838C-1018A
# GaAs MMIC Limiter,10GHz～18GHz

## Feature

- Frequency ： 10GHz～18GHz
- Insertion Loss：0.6dB
- VSWRin/out：1.5/1.5
- Limiting Level：17.5dBm
- Peak Power：20W(pluse 100us，duty cycle 20%)
- Diemsnion ： 2.00mm×1.20mm×0.10mm

## Function Diagram



## Microwave electrical specification（$T_A = +25℃$）

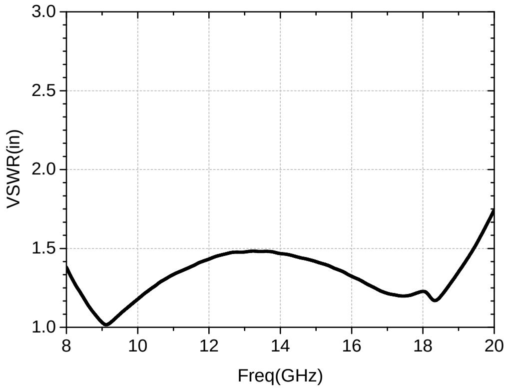
| Parameter | Symbol | Min | Typical | Max | Unit |
|---|---|---|---|---|---|
| Frequency | f | 10～18 | | | GHz |
| Insertion Loss | IL | | 0.6 | 0.9 | dB |
| VSWRin/out | VSWR | | 1.5 | 1.8 | - |
| Limiting Level | $P_{\mathrm{Lim}}$ | | 17.5 | | dBm |
| Peak Power | $P_p$ | 20 | | | W |

## Max Limited Values

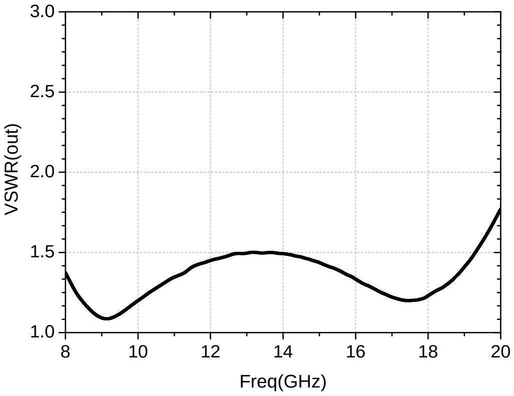
| Parameter | Symbol | Values |
|---|---|---|
| Max Pin | $P_p$ | 20W |
| Storage Temperature | $T_{STG}$ | -65℃～+150℃ |
| Operation Temperature | $T_{op}$ | -55℃～+125℃ |

## Testing Curves

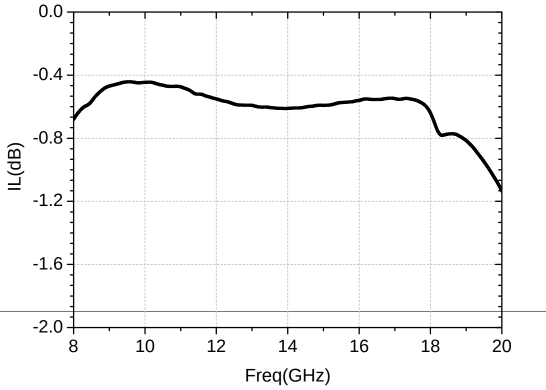
VSWRin vs. Frequency



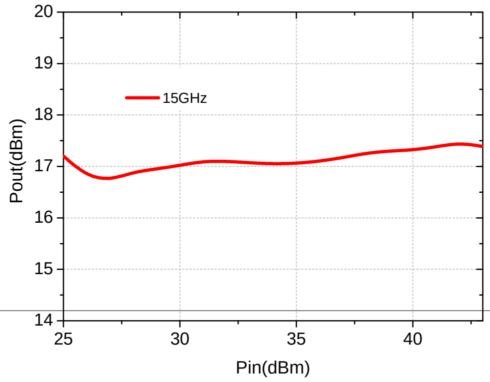
VSWRour vs. Frequency



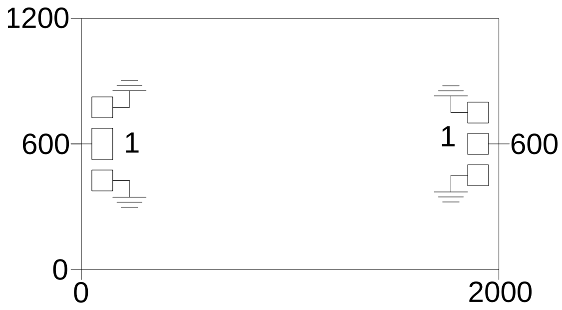
Insertion Loss vs. Frequency



Limiting Level



## Outline and Dimension

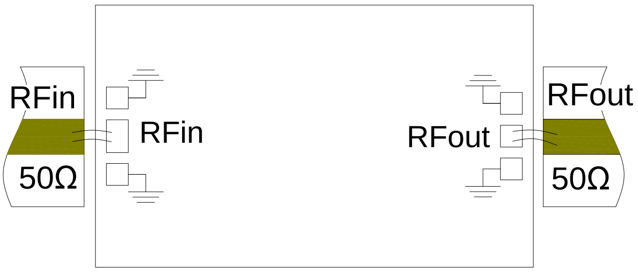


Note ： All unit is µm,
Tolerance: ±50µm

## Pad Definition

| No | Symbol | Function | PAD dimension |
|---|---|---|---|
| 1 | RFin | RF Signal input pad | $150\times100\mu m^2$ |
| 2 | RFout | RF Signal output pad | $100\times100\mu m^2$ |

## Assembly Diagram



## Attention

1) Assembly and use in a clean environment;

2) The GaAs material is very brittle, the surface of the chip is easily damaged (do not touch the surface), and care must be taken when using it;

3) Two bonding wires (25 µm diameter gold wire) for input and output, and about 300 µm bonding wire;

4) The input and output terminals have a DC blocking capacitor;

5) The back of the chip must be grounded;

6) Sintered with 80/20 gold tin, the sintering temperature should not exceed 300 ℃, the sintering time should be as short as possible, not more than 30 seconds;

7) This product is a static sensitive device, pay attention to anti-static when storing and using;

8) Dry and nitrogen storage;

9) Do not attempt to clean the surface of the chip by dry or wet chemical methods;

10) If you have any questions, please contact the supplier.