

# GaAs MMIC Power Divider



## **MMIC** Power divider

Mode1	Freq Range (GHz)	Insertion Loss (dB)	Insertion loss Flatness (dB)	VSWR	Isolation(dB)
GaPD0R35/2V	0.35-2	1	±0.2	1.6/1.3	13
GaPD0R5/1R5	0.5-1.5	0.9	±0.2	1.4/1.4	20
GaPD0R5/1R5V	0.5-1.5	0.8	±0.2	1.3/1.3	20
GaPD0R8/2	0.8-2.0	0.7	±0.1	1.5/1.4	12
GaPD1/3	1.0-3.0	0.8	±0.25	1.4/1.4	20
GaPD1/3V	1.0-3.0	0.8	±0.2	1.5/1.5	18
GaPD2/6	2.0-6.0	0.7	±0.2	1.5/1.3	17
GaPD2/6V	2.0-6.0	0.7	±0.2	1.3/1.2	20
GaPD2/8-2T	1-8	1.8	-	1.5/1.5	15
GaPD3/9	3.0-9.0	0.7	±0.2	1.4/1.3	20
GaPD3/9V	3.0-9.0	0.8	±0.2	1.4/1.3	20
GaPD2/18-2TA	2-18	1.0	±0.2	1.7/1.5	15
GaPD6/18	6-18	0.6	±0.15	1.5/1.3	17
GaPD6/18V	6-18	0.8	±0.4	1.3/1.4	20
GaPD8/12	8-12	0.4	±0.05	1.3/1.1	18
GaPD8/12V	8-12	0.5	±0.1	1.4/1.2	16
GaPD12/18	12-18	0.5	±0.2	1.4/1.1	20
GaPD18/26	18-26	0.6	±0.1	1.4/1.1	18
GaPD18/26V	18-26	0.7	±0.2	1.2/1.4	22
GaPD12/26R5	12-26.5	0.7	±0.2	1.4/1.5	20
GaPD20/40-3T	20-40	0.7	-	1.5/1.3	20
GaPD18/40	18-40	0.6	±0.1	1.4/1.4	11
GaPD18/40V	18-40	0.8	±0.2	1.2/1.1	25
GaPD26/31V	26-31	0.7	±0.2	1.3/1.2	24
GaPD26/40	26-40	0.5	±0.15	1.4/1.1	13



- Freq range: 0.35~2GHz
- insertion loss: 1dB
- Insertion loss fluctuation: ±0.2dB
- Isolation: 13dB
- input/ouput VSWR: 1.6/1.3
- Chip size: 2.2mm×3.7mm×0.075mm

#### **General Description:**

This product is a GaAs MMIC 0 two-way power divider chip, which has the characteristics of small insertion loss, high isolation, small size and easy integration, and is widely used in power distribution and synthesis.Insertion throughout Freq Range is less than 1dB

Electrical Spec: (T <sub>A</sub> =25°C , VD=+5V)				
Items	Min	Тур	Max	Unit
Freq Range	0.35~2			GHz
insertion loss	0.7	1	1.1	dB
Insl Fluctucation			±0.2dB	dB
Isolation	13			dB
Input VSWR		1.6		dB
Output VSWR		1.3		dB

#### Absolute Max. Ratings:

Max Input Power	+37dBm
Storage temp	-65℃~+150℃
Operation Temp	-55℃~+125℃

## **Typical curve:**





## Outline drawing: (Unit µm)



## Assembly drawing:



- When used in a clean environment, do not touch the surface of the chip.
- Input and output with 2 Insertion throughout Freq Range( 25um diameter gold wire ) bonding wires, the bonding wire length is as short as possible;
- The input and output have a DC blocking capacitor. This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage.



- Freq Range: 0.5~1.5 GHz
- Insertion Loss: 0.9 dB Isolation: 20dB •
- •
- Return Loss: >17dB/>17dB •
- Chipsize1.5mm×1.3mm×0.1m
- interface: 500 Coplanar waveguide line

#### **General Description:**

This product is a gallium arsenide monolithic power divider chip. The power divider chip has the characteristics of small insertion loss, high isolation, small size, light weight, easy integration and the like, and is widely used in power distribution and synthesis. The chip adopts on-chip via metallization process to ensure good grounding. Metallization of the back surface is suitable for common use

#### Absolute Max. Ratings:

Max input Power	+30dBm
Storage temp	-65℃~+150℃
Operation Temp	-55℃~+125℃

## Outline drawing: (Unit mm)



#### **Descritpion:**

Description:

Unit: mm, tolerance: 0.05 mm

Gold plating and grounding on the back of the chip Bonding press point gold plating, press point size: 0.10mm\*0.10mm Bonding cannot be performed on the through hole

## Pad Pad description:

Pad number	Function	Fuction Description
1	RFin	RFInput, impedance) 50ohm
2、3	RFout	RF Output impedance 50ohm
	GND	





## Assembly drawing:



The ceramic substrate should be as close to the chip as possible to shorten the size of the bond alloy wire. The typical assembly clearance is 0.076 - 0.152 mm (3 - 6 mils).

#### Instructions for assembly:

- 1. Storage: The chip must be placed in a container with electrostatic protection function and stored in a nitrogen atmosphere.
- 2. Cleaning: Bare chips must be operated and used in a clean environment. Cleaning the chips with liquid detergent is prohibited.
- 3. Electrostatic Protection: Please strictly observe ESD protection requirements to avoid electrostatic damage to the device.
- 4. General operation: Please use vacuum chuck or precision pointed tweezers to take the chip. Avoid touching the chip surface with tools or fingers during operation.
- 5. Mounting operation: AuSn solder eutectic sintering or conductive adhesive bonding can be used for chip mounting. The installation surface must be clean and level.
- 6. Bonding operation:  $\phi$  0.025 mm (1 mil) gold wire is used for both spherical and wedge bonding.
- Thermoultrasonic bonding temperature is 150 C,Spherical bonding cleaver pressure 40 ~50gf, wedge bonding cleaver pressure 18 - 22gf.Use as little ultrasonic energy as possible. Bonding starts at the pressing point on the chip and ends at the package ( or substrate )



- Freq range: 0.5~1.5GHz
- insertion loss: 0.8dB
- Insertion loss fluctuation: ±0.2dB
- Isolation: 20dB
- input/ouput VSWR: 1.3/1.3
- Chip size: 1.5mm×1.3mm×0.075mm

#### **General Description:**

This product is a GaAs MMIC 0 two-way power divider chip. The power divider chip has the characteristics of small insertion loss, high isolation, small size, light weight and easy integration. The insertion loss in the whole FREQ Range is less than 1.0 dB.

#### Electrical Spec: (T<sub>A</sub>=25°C, VD=+5V)

Item	Min	Тур	Max	Unit
Freq Range	0.5~1.5			GHz
Insertion loss	0.6	0.8	1.0	dB
Insl Fluctuation		-	±0.2dB	dB
Isolation	19	20	25	dB
Input VSWR	1.1	1.3	1.5	-
Output VSWR	1.1	1.3	1.6	-

## Absolute Max. Ratings:

Max Input Power	+37dBm	
Storage temp	-65℃~+150℃	
Operation Temp	-55℃~+125℃	

## Outline drawing: ( Unit mm )



## **Typical curve:**





Freq(GHz)

## Assembly drawing:



- When used in a clean environment, do not touch the surface of the chip.
- Input and output with 2 ( 25um diameter gold wire ) bonding wires, the bonding wire length is as short as possible;
- The input and output have a DC blocking capacitor.
- This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage.



- Freq range: 0.8~2GHz
- insertion loss: 0.7dB
- Insertion loss fluctuation: ±0.1dB
- input/ouput VSWR: 1.5/1.4
- Chip size: 2.2mm×1.5mm×0.1mm

#### **General Description:**

This product is a GaAs MMIC 0 two-way power divider with excellent performance. The chip does not need to be powered on, its freq range covers 0.8 - 2.0 GHz, insertion loss is less than 0.8 db, and input and output voltages

Electrical	Spec:	( T <sub>A</sub> =25℃	, VD=+5V)
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	Min	Тур	Max	Unit
Freq Range		0.8-2		GHz
Insertion loss	0.6	0.7	0.8	dB
Insl Fluctuation			±0.1	dB
Isolation	12			dB
Input VSWR			1.5	-
Output VSWR			1.4	-

## Absolute Max. Ratings:

Max input Power	+37 dBm
Storage temp	-65℃-150℃
Operation Temp	-55℃-125℃

## Outline drawing: (Unitµm)







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#### Assembly drawing:



- When used in a clean environment, do not touch the surface of the chip.
- Input and output with 2 (25um diameter gold wire) bonding wires, the bonding wire length is as short as possible;
- The input and output have a DC blocking capacitor.
- This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage



- Freq Range: 1.0~3.0 GHz
- Insertion Loss: 0.8 dB
- Isolation: 20dB
- Return Loss: >16dB/>17dB
- Chip size: 1.5mm×1.2mm×0.1mm
- interface: 50Ω Coplanar wave guide-line

## **General Description**

This product is a gallium arsenide monolithic power divider chip. The power divider chip has the characteristics of small insertion loss, high isolation, small size, light weight, easy integration and the like, and is widely used in power distribution and synthesis. The chip adopts on-chip via metallization process to ensure good grounding. Metallization of the back surface is suitable for eutectic sintering and conductive adhesive bonding.

#### Absolute Max. Ratings:

Max Input Power	+30dBm
Storage temp	-65℃~+150℃
Operation Temp	-55℃~+125℃

## Outline drawing: (Unitmm)



#### **Description:**

Unit: mm, tolerance: 0.05 mm

Gold plating and grounding on the back of the chip Bonding press point gold plating, press point size: 0.10mm\*0.10mm

Bonding cannot be performed on the through hole

## Pad description:

Pad number	Function	Fuction Description
1	RFin	RFInput, impedance) 50ohm
2、3	RFout	RF Output impedance 50ohm
	GND	

## Typical curve:







The ceramic substrate should be as close to the chip as possible to shorten the size of the bond alloy wire.

The typical assembly clearance is 0.076 - 0.152 mm (3 - 6 mils).

## Instructions for assembly:

- 1. Storage: The chip must be placed in a container with electrostatic protection function and stored in a nitrogen atmosphere.
- 2. Cleaning: Bare chips must be operated and used in a clean environment. Cleaning the chips with liquid detergent is prohibited.
- 3. Electrostatic Protection: Please strictly observe ESD protection requirements to avoid electrostatic damage to the device.
- 4. General operation: Please use vacuum chuck or precision pointed tweezers to take the chip. Avoid touching the chip surface with tools or fingers during operation.
- 5. Mounting operation: AuSn solder eutectic sintering or conductive adhesive bonding can be used for chip mounting. The installation surface must be clean and level.
- 6. Bonding operation:  $\phi$  0.025 mm (1 mil) gold wire is used for both spherical and wedge bonding.
- Thermoultrasonic bonding temperature is 150 C,Spherical bonding cleaver pressure 40 ~50gf, wedge bonding cleaver pressure 18 - 22gf.Use as little ultrasonic energy as possible. Bonding starts at the pressing point on the chip and ends at the package ( or substrate )



- Freq range: 1.0~3.0 GHz
- insertion loss: 0.8 dB
- Insertion loss fluctuation:±0.2dB
- Isolation:18dB
- input/ouput: VSWR:1.5/1.5
- Chip size: 1.5mm×1.2mm×0.075mm

#### General Description:

Thisproductisa GaAsMMIC0two-waypower divider chip, which has the characteristics of small insertion loss, high isolation, small size and easy integration, and is widely used in power distribution and synthesis. The freq range covers 1-3GHz, and the insertion loss within the entire freq range is less than 0.8db.

#### Electrical Spec: (TA=25℃, VD=+5V)

Item	Min	Тур	Max	Unit
Freq Range		1-3		GHz
insertion loss	0.6	0.8	1	dB
InselFluctuate			±0.2	dB
Isolation	18			dB
Input VSWR		1.5		-
Output VSWR		1.5		-

## Absolute Max. Ratings:

Max Input Power	+37dBm
Storage temp	-65℃~+150℃
Operation Temp	-55℃~+125℃

## Outline drawing: (Unitµm)



## **Typical curve:**









- When used in a clean environment, do not touch the surface of the chip.
- Input and output with 2 (25um diameter gold wire) bonding wires, the bonding wire length is as short as possible;
- The input and output have a DC blocking capacitor.
- This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage



- Freq range: 2~6GHz •
- insertion loss: 0.7dB •
- Insertion loss fluctuation: ±0.2dB •
- input/ouput VSWR: 1.5/1.3 •
- Chip size: 1.5mm×1.65mm×0.1mm •

## **General Description:**

This product is a GaAs MMIC 0 two-way power divider chip,its FREQ Range covers 2 ~ 6 GHz,and the insertion loss is less than 0.9 dB in the entire Freq Range.

## Electrical Spec: (TA=25℃, VD=+5V)

Items	Min	Тур	Max	Unit
Freq Range		2~6		GHz
Insertion loss	0.5	0.7	0.9	dB
INSL Fluctuation			±0.2dB	dB
Isolation	17			dB
Input VSWR		1.5		-
Output VSWR		1.3		-

## Absolute Max. Ratings:

Max Input Power	+37dBm	
Storage temp	-65℃~+150℃	
Operation Temp	-55℃~+125℃	

## Outline drawing: (Unitµm)



## **Typical curve:**









## Assembly drawing:



- When used in a clean environment, do not touch the surface of the chip.
- Input and output with 2 (25um diameter gold wire) bonding wires, the bonding wire length is as short as possible;
- The input and output have a DC blocking capacitor.
- This product is an electrostatic sensitive device. Pay • attention to anti-static when storing and using it.
- Dry, nitrogen environment storage •



- Freq range: 2~6GHz
- insertion loss: 0.7dB
- Insertion loss fluctuation: ±0.2dB
- Isolation: 20dB
- input/ouput VSWR: 1.3/1.2
- Chip size: 1.2mm×1.0mm×0.075mm

#### **General Description:**

This product is a GaAs MMIC 0 two-way power divider chip, which has the characteristics of small insertion loss, high isolation, small size and easy integration, and is widely used in power distribution and synthesis.

## Electrical Spec: (T<sub>A</sub>=25°C, VD=+5V)

Item	Min	Тур	Max	Unit
Freq Range		2~6		GHz
Insertion loss	0.5	0.7	0.9	dB
INSL Fluctuation			±0.2	dB
Isolation	18	20		dB
Input VSWR		1.3		-
Output VSWR		1.2		-

## Absolute Max. Ratings:

Max Input Power	+37dBm	
Storage temp	-65℃~+150℃	
Operation Temp	-55℃~+125℃	

## Outline drawing: (Unitµm)



## **Typical curve:**





## Assembly drawing:

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3

Freq(GHz)

4

5

6

7

0 +



- When used in a clean environment, do not touch the surface of the chip.
- Input and output with 2 (25um diameter gold wire) bonding wires, the bonding wire length is as short as possible;
- The input and output have a DC blocking capacitor.
- This product is an electrostatic sensitivedevice. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage



- Freq Range: 1~8 GHz
- Insertion Loss: 1.8 dB
- Isolation: 15dB
- Return Loss: 15dB
- Chip size: 1.4mm×0.9mm×0.1mm
- interface: 50Ω Coplanar waveguide line

#### **General Description:**

This product is a GaAs monolithic power divider chip. The power divider chip has the characteristics of small insertion loss, high isolation, small size, light weight, easy integration and the like, and is widely used in power distribution and synthesis.

The chip adopts on-chip via metallization process to ensure good grounding. Metallization of the back surface is suitable for eutectic sintering and conductive adhesive bonding.

#### Absolute Max. Ratings:

Max Input Power	+30dBm	
Storage temp	-65℃~+150℃	
Operation Temp	-55℃ ~+125℃	

#### Outline drawing: (Unitmm)



## **Description**:

Gold plating and grounding on the back of the chip Bonding press point gold plating, press point size: 0.10mm\*0.10mm Bonding cannot be performed on the through hole

## Typical curve:

#### Insertion loss(Split Loss inclusive)VS Freq





The ceramic substrate should be as close to the chip as possible to shorten the size of the bond alloy wire. The typical assembly clearance is 0.076 - 0.152 mm (3 - 6 mils).

#### Instructions for assembly:

- 1. Storage: The chip must be placed in a container with electrostatic protection function and stored in a nitrogen atmosphere.
- 2. Cleaning: Bare chips must be operated and used in a clean environment. Cleaning the chips with liquid detergent is prohibited.
- 3. Electrostatic Protection: Please strictly observe ESD protection requirements to avoid electrostatic damage to the device.
- General operation: Please use vacuum chuck or precision pointed tweezers to take the chip.avoid touching the chip surface with tools or fingers during operation.
- 5. Mounting operation: AuSn solder eutectic sintering or conductive adhesive bonding can be used for chip mounting. The installation surface must be clean and level.
- 6. Bonding operation:  $\varphi\,$  0.025 mm ( 1 mil ) gold wire is used for both spherical and wedge bonding.
- 7. Thermo ultrasonic bonding temperature is 150 C,Spherical bonding cleaver pressure 40 ~50gf, wedge bonding cleaver pressure 18 -22gf.Use as little ultrasonic energy as possible. Bonding starts at the pressing point on the chip and ends at the package ( or substrate )

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- Freq Range: 3~9 GHz
- Insertion Loss: 0.7 dB
- Isolation: 20dB
- Return: >16dB/>18dB
- Chip size: 1.2mm×1.0mm×0.1mm
- interface: 50Ω Coplanar waveguide line

## **General Description:**

This product is a gallium arsenide monolithic power divider chip.The power divider chip has the characteristics of small insertion loss, high isolation,small size, light weight, easy integration and the like, and is widely used in power distribution and synthesis. The chip adopts on-chip via metallization process to ensure good grounding. Metallization of the back surface is suitable for common use

#### Absolute Max. Ratings:

Max Input Power	+30dBm	
Storage temp	-65℃~+150℃	
Operation Temp	-55℃~+125℃	

## Outline drawing: (Unitmm)



#### **Description:**

Unit: mm, tolerance: 0.05 mm Gold plating and grounding on the back of the chip Bonding press point gold plating, press point size: 0.10mm\*0.10mm Bonding cannot be performed on the through hole

## Pad description:

Pad number	Function	Fuction Description
1	RFin	RFInput, impedance) 50ohm
2、3	RFout	RF Output impedance 50ohm
	GND	

## Typical curve:





The ceramic substrate should be as close to the chip as possible to shorten the size of the bond alloy wire. The typical assembly clearance is 0.076 - 0.152 mm (3 - 6 mils).

## Instructions for assembly:

- 1. Storage: The chip must be placed in a container with electrostatic protection function and stored in a nitrogen atmosphere.
- 2. Cleaning: Bare chips must be operated and used in a clean environment. Cleaning the chips with liquid detergent is prohibited.
- 3. Electrostatic Protection: Please strictly observe ESD protection requirements to avoid electrostatic damage to the device.
- 4. General operation: Please use vacuum chuck or precision pointed tweezers to take the chip. Avoid touching the chip surface with tools or fingers during operation.
- 5. Mounting operation: AuSn solder eutectic sintering or conductive adhesive bonding can be used for chip mounting. The installation surface must be clean and level.
- 6. Bonding operation:  $\phi$  0.025 mm (1 mil) gold wire is used for both spherical and wedge bonding.
- Thermoultrasonic bonding temperature is 150 C,Spherical bonding cleaver pressure 40 ~50gf, wedge bonding cleaver pressure 18 - 22gf.Use as little ultrasonic energy as possible. Bonding starts at the pressing point on the chip and ends at the package ( or substrate )



- Freq Range: 3~9 GHz
- Insertion Loss: 0.8 dB
- Insertion loss fluctuation: ±0.2dB
- Isolation: 20dB
- input/ouput VSWR: 1.4/1.3
- Chip size: 1.2mm×1.0mm×0.075mm

## **General Description:**

This product is a GaAs MMIC 0 two-way power divider chip, which has the characteristics of small insertion loss, high isolation, small size and easy integration, and is widely used in power distribution and synthesis. The freq range covers 3 - 9 GHz, and the insertion loss within the entire freq range is less than 0.9 db.

#### Electrical Spec: (TA=25℃)

Item	Min	Тур	Max	Unit
Freq Range		3~9		GHz
insertion loss	0.5	0.7	0.9	dB
Insertion loss flu	ictuation		±0.2	dB
Isolation	-	20	-	dB
Input VSWR	1.5	1.4	-	-
Output VSWF	1.4	1.3	-	-

## Absolute Max. Ratings:

Max Input Power	+37dBm	
Storage temp	-65℃~+150℃	
Operation Temp	-55℃~+125℃	

## Outline drawing: (Unitµm)



## Typical curve:











- When used in a clean environment, do not touch the surface of the chip.
- Input and output with 2 (25um diameter gold wire) bonding wires, the bonding wire length is as short as possible;
- The input and output have a DC blocking capacitor.
- This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage



- Freq range: 2~18GHz
- insertion loss: 1dB
- Isolation: 15dB
- Input/Output return Loss: 15dB
- Chip size: 2.0×2.0×0.1mm

## **General Description:**

This product is a GaAs MMIC 0 two-way power divider chip, FreqRangeCover2 ${\sim}18GHz_{\circ}$ 

Electrical	Spec:	( T₄=25℃)
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Item	Min	Тур	Max	Unit
Freq Range	2~18			GHz
insertion loss	0.5	0.8	1.4	dB
Isolation	-	17	-	dB
Return Loss	-	15	-	dB
Output VSWR		15		-

## Absolute Max. Ratings:

	-
Max Input Power	+37dBm
Storage temp	-65℃~+150℃
Operation Temp	-55℃~+125℃

## Outline drawing: (Unitmm)



## **Typical curve:**







Assembly drawing:



- When used in a clean environment, do not touch the surface of the chip.
- Input and output with 2 (25um diameter gold wire) bonding wires, the bonding wire length is as short as possible;
- The input and output have a DC blocking capacitor.



- Freq Range: 6~18GHz
- insertion loss: 0.6dB
- input/ouput VSWR: 1.5/1.3
- Chip size: 1.5mm×2.1mm×0.1mm

#### **General Description:**

This product is a GaAs MMIC 0 two-way power divider chip, he chip is grounded through the back metal via the through hole, Freqrange Cover6-18 GHz, insertionloss isLessthan0.6dB, Input/ Output VSWR is less than 1.5.

#### Electrical Spec: (TA=25°C)

Items	Min	Тур	Max	Unit
Freq Range		6-18		GHz
insertion loss	0.3		0.6	dB
Insertion loss fluctuation	on		±0.15	dB
Isolation	17			dB
Input VSWR			1.5	-
Output VSWR			1.3	-

#### Absolute Max. Ratings:

Max input Power	37dBm
Storage temp	-65℃-+150℃
Operation Temp	-55℃-+125℃

## Outline drawing: (Unitµm)



## **Typical curve:**







## Assembly drawing:



- When used in a clean environment, do not touch the surface of the chip.
- Input and output are made of two (25um diameter gold wire) bonding wires, with a bonding wire length of about 300 um being optimal.
- Input and output have no direct isolation capacitance;
- This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage.



- Freq Range: 6~18GHz
- insertion loss: 0.8dB •
- Insertion loss fluctuation: ±0.4dB
- Isolation: 20dB •
- input/ouput VSWR: 1.3/1.4 •
- Chip size: 1.5mm×1.5mm×0.075mm

#### **General Description:**

This product is a GaAs MMIC 0 degree two-way power divider with excellent performance. The chip is grounded through the back metal via the through hole. The chip Freq Range covers 6 - 18 GHz, the insertion loss is less than 0.6 dB, and the input and output voltage VSWR is less than 1.5

#### Electrical Spec: (TA=25℃, VD=+5V)

Item	Min	Тур	Max	Unit
Freq Range		6-18		GHz
insertion loss	0.4	0.8	1.2	dB
INSL Fluctuation			±0.4	dB
Isolation	17	20	57	dB
Input VSWR	1.1	1.3	1.5	-
Output VSWR	1.1	1.4	1.6	-

## Absolute Max. Ratings:

Max input Power	+37dBm	
Storage temp	-65℃-+150℃	
Operation Temp	-55℃-+125℃	

#### Outline drawing: (Unitmm)



## **Typical curve:**







- When used in a clean environment, do not touch the surface of the chip.
- Input and output are made of two (25um diameter gold ٠ wire ) bonding wires, with a bonding wire length of about 300 um being optimal.
- Input and output have no direct isolation capacitance;
- This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage.



- Freq Range: 8~12GHz
- insertion loss: 0.4dB
- input/ouput VSWR: 1.3/1.1
- Chip size: 1.5mm×4.0mm×0.1mm

#### **General Description:**

Thisproductis a GaAs MMIC 0 degree two-way power divider with excellent performance. The chip freq range covers 8-12 GHz, the insertion loss is less than 0.4 db, and the input and output voltage VSWR is less than 1.3.

<b>Electrical Spe</b>	<b>C:</b> (TA=25℃)
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Item	Min	Тур	Max	Unit
Freq Range		8-12		GHz
insertion loss	0.3		0.4	dB
INSLFluctuation			±0.05	dB
Isolation	18			dB
Input VSWR			1.3	-
Output VSWR			1.1	-

## Absolute Max. Ratings:

Max input Power	+37dBm
Storage temp	-65℃-+150℃
Operation Temp	-55℃-+125℃

## **Typical curve:**













## Assembly drawing:



- When used in a clean environment, do not touch the surface of the chip.
- Input and output are made of two ( 25um diameter gold wire ) bonding wires, with a bonding wire
- length of about 300 um being optimal. Input and output have no direct isolation capacitance;
- This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage.



- Freq Range: 8~12GHz
- insertion loss: 0.5dB
- input/ouput VSWR: 1.4/1.2
- Chip size: 1.1mm×1.5mm×0.075mm

## **General Description:**

This product is a GaAs MMIC 0 two-way power divider with excellent performance. The chip freq range covers 8 - 12 GHz and the insertion loss is less than 0.5DB, input and output voltage VSWR is less than 1.4.

## Electrical Spec: (TA=25°C, VD=+5V)

Item	Min	Тур	Max	Unit
Freq Range		8-12		GHz
insertion loss	0.3		0.5	dB
INSL Fluctuation			±0.1	dB
Isolation	16			dB
Input VSWR			1.4	-
Output VSWR			1.2	-

## Absolute Max. Ratings:

Max input Power	+37dBm
Storage temp	-65℃-+150℃
Operation Temp	-55℃-+125℃

## Outline drawing: (Unitµm)



## Typical curve:







## Assembly drawing:



- When used in a clean environment, do not touch the surface of the chip.
- Input and output are made of two (25um diameter gold wire) bonding wires, with a bonding wire length of about 300 um being optimal.
- This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage.



- Freq Range: 12~18 GHz
- Insertion Loss: 0.5 dB
- Isolation: 20dB
- Return Loss: >18dB/>26dB
- Chip size: 1.5mm×1.5mm×0.1mm
- interface: 50Ω Coplanar waveguide line

#### **General Description:**

The power divider chip has the characteristics of small insertion loss, high isolation, small volume, light weight, easy integration and the like Point, widely used in power distribution and synthesis. The chip adopts on-chip via metallization process to ensure good grounding. Metallization of the back surface is suitable for eutectic sintering and conductive adhesive bonding.

## Absolute Max. Ratings:

Max input Power	+30dBm
Storage temp	-65℃~+150℃
Operation Temp	-55℃~+125℃

## Outline drawing: (Unitmm)



#### **Description:**

Unit: mm, tolerance: 0.05 mm Gold plating and grounding on the back of the chip Bonding press point gold plating, press point size: 0.10mm\*0.10mm Bonding cannot be performed on the through hole

## Pad description.

Pad number	Function	Fuction Description	
1	RFin	RFInput, impedance) 50ohm	
2、3	RFout	RF Output impedance 50ohm	
	GND		









The ceramic substrate should be as close to the chip as possible to shorten the size of the bond alloy wire. The typical assembly clearance is 0.076 - 0.152 mm (3 - 6 mils).

#### Instructions for assembly:

- 1. Storage: The chip must be placed in a container with electrostatic protection function and stored in a nitrogen atmosphere.
- 2. Cleaning: Bare chips must be operated and used in a clean environment. Cleaning the chips with liquid detergent is prohibited.
- 3. Electrostatic Protection: Please strictly observe ESD protection requirements to avoid electrostatic damage to the device.
- 4. General operation: Please use vacuum chuck or precision pointed tweezers to take the chip.Avoid touching the chip surface with tools or fingers during operation.
- 5. Mounting operation: AuSn solder eutectic sintering or conductive
- adhesive bonding can be used for chip mounting. The installation surface must be clean and level.
- 6. Bonding operation:  $\phi$  0.025 mm (1 mil) gold wire is used for both spherical and wedge bonding.
- Therm oultrasonic bonding temperature is 150 C,Spherical bonding cleaver pressure 40 ~50gf, wedge bonding cleaver pressure 18 - 22gf.Use as little ultrasonic energy as possible. Bonding starts at the pressing point on the chip and ends at the package ( or substrate )



- Freq Range: 18~26GHz
- insertion loss: 0.6dB
- input/ouput VSWR: 1.4/1.1
- Chip size: 1.5mm×4.0mm×0.1mm

#### **General Description:**

This product is a high performance GaAs MMIC 0° twoway splitter. The chip's Freq range covers 18-26GHz, the insertion loss is less than 0.6dB, and the input and output voltage VSWR is less than 1.4.

<b>Electrical S</b>	pec:	(TA=25℃)
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Item	Min	Тур	Max	Unit
Freq Range		18-26		GHz
Insertion loss	0.4		0.6	dB
Insl Fluctuation			±0.1	dB
Isolation	18			dB
Input VSWR			1.4	-
Output VSWR			1.1	-

## Absolute Max. Ratings:

Max input Power	+37dBm
Storage temp	-65℃-150℃
Operation Temp	-55℃-125℃

## Typical curve:

## insertion loss





**Outline drawing:** (Unitµm)



## Assembly drawing:



- When used in a clean environment, do not touch the surface of the chip.
- Input and output with 2 (25um diameter gold wire) bonding wires, the bonding wire length is as short as possible;
- The input and output have a DC blocking capacitor.
- This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage



- Freq Range: 18~26GHz
- insertion loss: 0.7dB
- Insertion loss fluctuation: ±0.2dB
- Isolation: 22dB
- input/ouput VSWR: 1.2/1.4
- Chip size: 1.35mm×1.8mm×0.075mm

#### **General Description:**

This product is a GaAs MMIC0° two-way power splitter chip. The power splitter chip has the characteristics of small insertion loss, high Isolation, small size and easy integration. It is widely used in power distribution and synthesis. Its Freq Range covers 18 to 26 GHz, and the insertion loss in the entire Freq range is less than 0.9 dB.

<b>Electrical Spec:</b>	( TA=25℃,	VD=+5V)
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Item	Min	Тур	Max	Unit
Freq Range		18-26		GHz
insertion loss	0.5	0.7	0.9	dB
Insl Fluctuation			±0.2	dB
Isolation	22			dB
Input VSWR		1.2		-
Output VSWR		1.4		-

## Absolute Max. Ratings:

Max input Power	+37dBm
Storage temp	-65℃-+150℃
Operation Temp	-55℃-+125℃

## Outline drawing: (Unitµm)



**Typical curve:** 









- When used in a clean environment, do not touch the surface of the chip.
- Input and output with 2 (25um diameter gold wire) bonding wires, the bonding wire length is as short as possible;
- The input and output have a DC blocking capacitor.
- This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.
- Dry, nitrogen environment storage



- Freq Range: 12~26.5 GHz
- Insertion Loss: 0.7 dB
- Isolation: 20dB
- return loss: >16dB/>15dB
- Chip size: 1.5mm×2.0mm×0.1mm
- interface: 50Ω Coplanar wave-guide line

## **General Description**

This product is a gallium arsenide monolithic power divider chip. The power splitter chip has the characteristics of small insertion loss, high Isolation, small volume, light weight, easy integration, and the like, and is widely used in power distribution and synthesis. The chip uses an on-chip via metallization process to ensure good grounding. The back side is metallized for eutectic sintering and conductive bonding.

#### Absolute Max. Ratings:

Max Input Power	+30dBm
Storage temp	-65℃~+150℃
Operation Temp	-55℃~+125℃

## Outline drawing: (Unitmm)



#### **Description:**

Unit: mm, tolerance: 0.05 mm Gold plating and grounding on the back of the chip Bonding press point gold plating, press point size: 0.10mm\*0.10mm Bonding cannot be performed on the through hole

#### Pad description:

Pad number	Function	Fuction Description
1	RFin	RFInput, impedance) 50ohm
2、3	RFout	RF Output impedance 50ohm
	GND	







The ceramic substrate should be as close to the chip as possible to shorten the size of the bond alloy wire. The typical assembly clearance is 0.076 - 0.152 mm ( 3 - 6 mils ).

24 26

- 1. Storage: The chip must be placed in a container with electrostatic protection function and stored in a nitrogen atmosphere.
- 2. Cleaning: Bare chips must be operated and used in a clean environment. Cleaning the chips with liquid detergent is prohibited.
- 3. Electrostatic Protection: Please strictly observe ESD protection requirements to avoid electrostatic damage to the device.
- 4. General operation: Please use vacuum chuck or precision pointed tweezers to take the chip.Avoid touching the chip surface with tools or fingers during operation.
- 5. Mounting operation: AuSn solder eutectic sintering or conductive adhesive bonding can be used for chip mounting.the installation surface must be clean and level.
- 6. Bonding operation:  $\phi$  0.025 mm (1 mil) gold wire is used for both spherical and wedge bonding.
- Thermoultrasonic bonding temperature is 150 C,Spherical bonding cleaver pressure 40 ~50gf, wedge bonding cleaver pressure 18 - 22gf.Use as little ultrasonic energy as possible. Bonding starts at the pressing point on the chip and ends at the package ( or substrate )



- Freq Range: 20~40 GHz
- Insertion Loss: 0.7 dB
- Isolation: 20dB
- Input/Output VSWR: 1.5/1.3
- Chip size: 1.65mm×1.2mm×0.1mm
- interface: 50Ω Coplanar waveguide line

#### **General Description:**

This product is a GaAS single-chip 0° three-power splitter chip. The power splitter chip has the characteristics of small insertion loss, high Isolation, small volume, light weight and easy integration, and is widely used in power distribution and synthesis. the chip uses an on-chip via metallization process to ensure good grounding. The back side is metallized for eutectic sintering or conductive bonding.

#### Absolute Max. Ratings:

Max Input Power	+15dBm	
Storage temp	-65℃~+150℃	
Operation Temp	-55℃ ~+125℃	

Outline drawing: (Unitum)



## **Description:**

Unit: mm, tolerance: 0.05 mm Gold plating and grounding on the back of the chip Bonding press point gold plating, press point size: 0.10mm\*0.10mm Bonding cannot be performed on the through hole

## **Typical curve:**







#### Assembly drawing:



The ceramic substrate should be as close to the chip as possible to shorten the size of the bond alloy wire. The typical assembly clearance is 0.076 - 0.152 mm (3 - 6 mils).

## Instructions for assembly:

1. Storage: The chip must be placed in a container with electrostatic protection and stored under nitrogen.

2. Cleaning treatment: The bare chip must be used in a clean environment. It is forbidden to clean the chip with liquid detergent.

3. Electrostatic protection: Please strictly comply with ESD protection requirements to avoid electrostatic damage to the device.

4. Routine operation: Use a vacuum chuck or a precision pointed tweezers to take the chip.avoid touching tools or fingers on the surface of the chip during operation.

5. Mounting operation: The chip can be mounted by AuSn solder eutectic sintering or conductive bonding.the mounting surface must be clean and flat.

6. Bonding operation:  $\Phi$  0.025mm (1mil) gold wire is used for spherical or wedge bonding. The thermosonic bonding temperature was 150 °C. The spherical bonding boring tool pressure is 40 to 50 gf, and the wedge-shaped bonding boring tool pressure is 18 to 22 gf. Use as little ultrasonic energy as possible. The bonding starts at the pressure point on the chip and ends at the package (or substrate).



- Freq Range: 18~40GHz
- insertion loss: 0.6dB
- input/ouput VSWR: 1.4/1.4
- Chip size: 1.5mm×3.2mm×0.1mm

#### **General Description:**

This product is a high performance GaAs MMIC 0° two-way splitter. The chip's Freq range covers 18-40GHz, the insertion loss is less than 0.6dB, and the input and output voltage VSWR is less than 1.4.

#### **Electrical Spec:** (T<sub>A</sub>=25°C)

Item	Min	Тур	Max	Unit
Freq Range		18-40		GHz
Insertion loss	0.5		0.6	dB
Insl Fluctuation			±0.1	dB
Isolation	11			dB
Input VSWR			1.4	-
Output VSWR			1.4	-

#### Absolute Max. Ratings:

Max input Power	+37dBm
Storage temp	-65℃-+150℃
Operation Temp	-55℃-+125℃

## Typical curve:







## Notes:

•When used in a clean environment, do not touch the surface of the chip.

•Input and output are made of two (25um diameter gold wire) bonding wires, with a bonding wire length of about 300 um being optimal.

•This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.no need DC-Blocking capacitor in input/output

•Dry, nitrogen environment storage.



- Freq Range: 18~40GHz
- insertion loss: 0.8dB
- Insertion loss fluctuation: ±0.2dB
- Isolation: 25dB
- input/ouput VSWR: 1.2/1.1
- Chip size: 1.5mm×1.5mm×0.075mm

#### **General Description:**

This product is a GaAs MMIC0° two-way power splitter chip. The power splitter chip has the characteristics of small insertion loss, high Isolation, small size, light weight and easy integration. Its Freq Range covers  $18{\sim}40$ GHz.

Electrical Spec: (T <sub>A</sub> =25°C, VD=+5V)				
Item	Min	Тур	Max	Unit
Freq Range		18-40		GHz
insertion loss	0.6	0.8	1.0	dB
Insl Fluctuation			±0.2	dB
Isolation	22	25		dB
Input VSWR		1.2	1.4	-
Output VSWR		1.1	1.3	-

## Absolute Max. Ratings:

Max input Power	+37dBm
Storage temp	-65℃-+150℃
Operation Temp	-55℃-+125℃

## Outline drawing: (Unitmm)



## Typical curve:









## Assembly drawing:



## Notes:

•When used in a clean environment, do not touch the surface of the chip.

• Input and output are made of two (25um diameter gold wire) bonding wires, with a bonding wire length of about 300 um being optimal.

•This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.no need DC-Blocking capacitor in input/output

•Dry, nitrogen environment storage.



- Freq range: 26~31GHz
- insertion loss: 0.7dB
- Insertion loss fluctuation: ±0.2dB
- Isolation: 24dB
- input/ouput VSWR: 1.3/1.2
- Chip size: 1.25mm×1.8mm×0.075mm

#### **General Description:**

This product is a GaAs MMIC0° two-way power splitter chip. The power splitter chip has the characteristics of small insertion loss, high Isolation, small size and easy integration. It is widely used in power distribution and synthesis. Its Freq Range covers 26 to 31 GHz, and the insertion loss in the entire Freq range is less than 0.7 dB.

## Electrical Spec: (T<sub>A</sub>=25°C, VD=+5V)

Item	Min	Тур	Max	Unit
Freq Range		26-31		GHz
Insertion loss	0.5	0.7	0.9	dB
Insl fluctuation			±0.2	dB
Isolation	24			dB
Input VSWR		1.3		-
Output VSWR		1.2		-

#### Absolute Max. Ratings:

Max Input Power	+37dBm
Storage temp	-65℃~150℃
Operation Temp	-55℃~125℃

#### **Typical curve:**







#### Outline drawing : ( Unit µm )



## Assembly drawing:



## Notes:

When used in a clean environment, do not touch the surface of the chip.

Input and output are made of two (25um diameter gold wire) bonding wires, with a bonding wire length of about 300 um being optimal.

•This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.no need DC-Blocking capacitor in input/output •Dry, nitrogen environment storage.



- Freq Range: 26~40GHz
- insertion loss: 0.5dB
- input/ouput VSWR: 1.4/1.1
- Chip size: 1.5mm×3.2mm×0.1mm

#### **General Description:**

This product is a high performance GaAs MMIC 0° two-way splitter. The chip Freq range covers 26-40GHz, the insertion loss is less than 0.5dB, and the input and output voltage VSWR is less than 1.4.

Electrical S	<b>PEC:</b> (TA=25℃)
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Item	Min	Тур	Max	Unit
Freq Range		26-40		GHz
Insertion loss	0.3		0.5	dB
NSL Fluctuation	n		±0.1	dB
Isolation	13			dB
Input VSWR			1.4	-
Output VSWR			1.1	-

## Absolute Max. Ratings:

Max input Power	+37dBm
Storage temp	<b>-65℃-150℃</b>
Operation Temp	<b>-55℃-125℃</b>

## Typical curve:









#### **Outline drawing:** (Unitµm)



## Notes:

•When used in a clean environment, do not touch the surface of the chip.

• Input and output are made of two (25um diameter gold wire) bonding wires, with a bonding wire length of about 300 um being optimal.

•This product is an electrostatic sensitive device. Pay attention to anti-static when storing and using it.no need DC-Blocking capacitor in input/output

• Dry, nitrogen environment storage.