
Ferrite Product Series

1. Features:

Wide frequency range cover:

The frequency solator, circulator and other components covers (30MHz~110GHz). The technical specification and temperature specification of components within covered frequency is well.

Product scale:

Including stripline/coaxial/Microstrip/waveguide isolator, circulator, switch, isolation loop components, divider, filter etc.

Various structure: stripline, coaxial, microstrip, waveguide, coaxial-stripline, waveguide-coaxial.

High reliability:

The components are resistant to harsh environments such as shock and vibration. It can meet the application requirements of special occasions such as Airborne, Bomb-borne, Ship-borne and Aerospace.

2. Production Technology

2.1 Microstrip Components:

A) The thin film microstrip circuit of input/output ports is formed by vacuum sputtering. From the inside to finish, there are tantalum nitride, chromium, copper, and gold layers etc.

B) The microstrip circuit substrate and the bottom plate adopts soldering

technology. The solder is a solder paste, or a solder lug.

C) The bonding process is used between the microstrip circuit substrate, the supporting medium, balance tab and the permanent magnet.

2.2 Stripline Coaxial Components

A) The stripline circuit is copper-plated or silver-plated.

B) The resistor and the cavity adopt soldering process, the solder is solder paste, and the soldering temperature is 205 °C.

C) The ferrite substrate, supporting medium, balance tab, permanent magnet, and magnetic circuit adopt bonding process. The adhesive is an X98-11 acetal drying glue, and the curing temperature is 150 °C.

D) The coating of the shell is copper-plated.

2.3 Waveguide Components

A) The cavity is conductive oxidation.

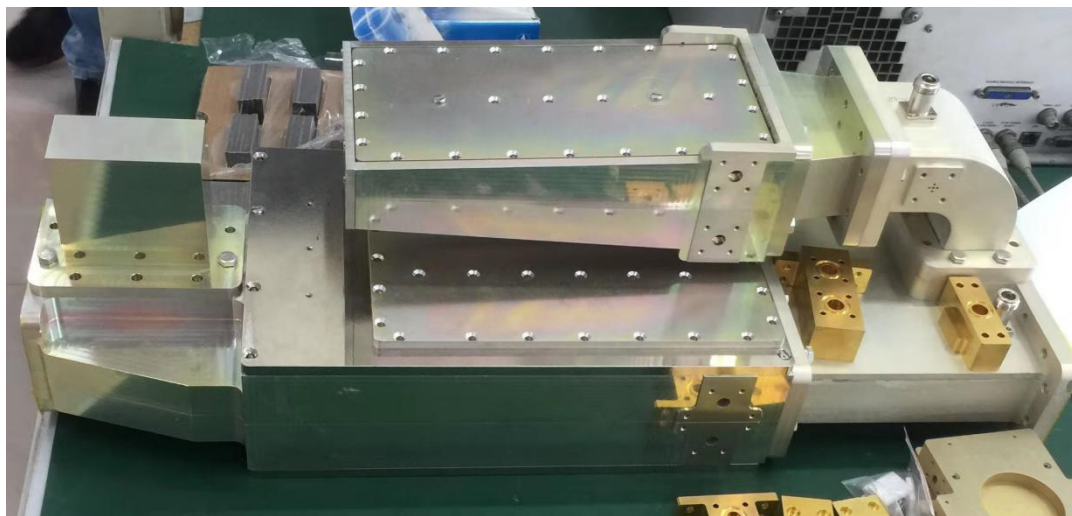
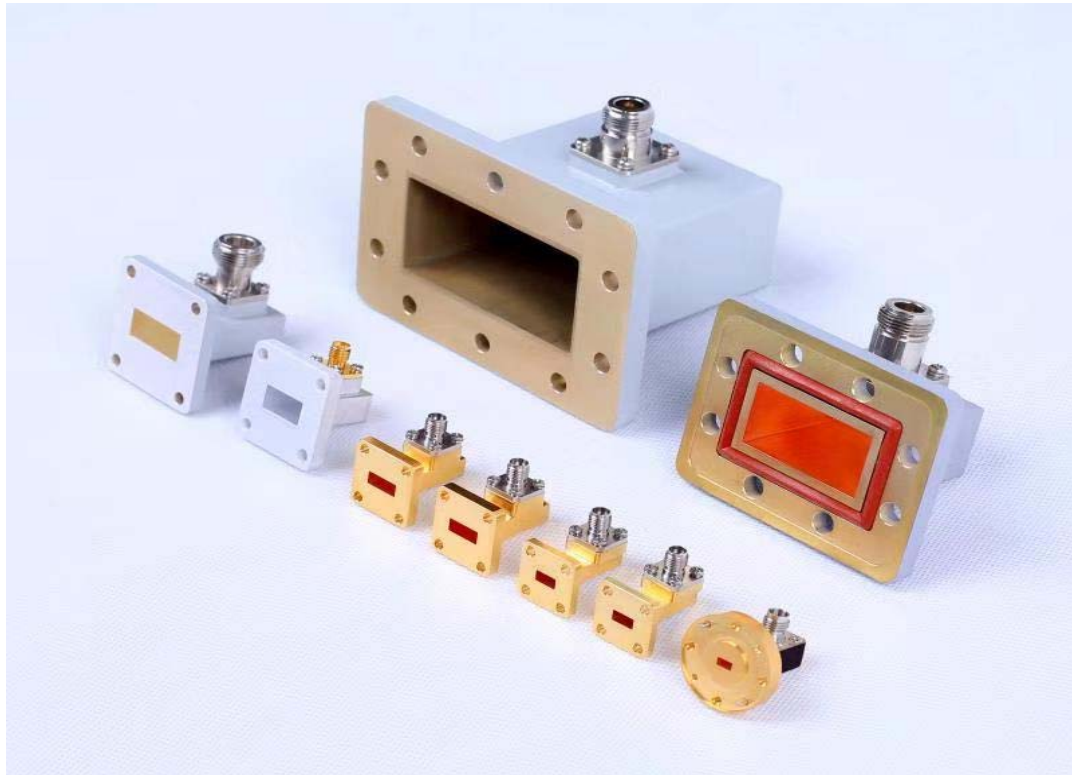
B) The cavities is connected by screws.

C) The ferrite substrate, supporting medium, balance tab, permanent magnet, and the cavity adopt bonding process.

3. Product Introduction

The specification, drawing and dimension for waveguide isolator, stripline isolator, waveguide circulator and stripline circulator are included as follows.





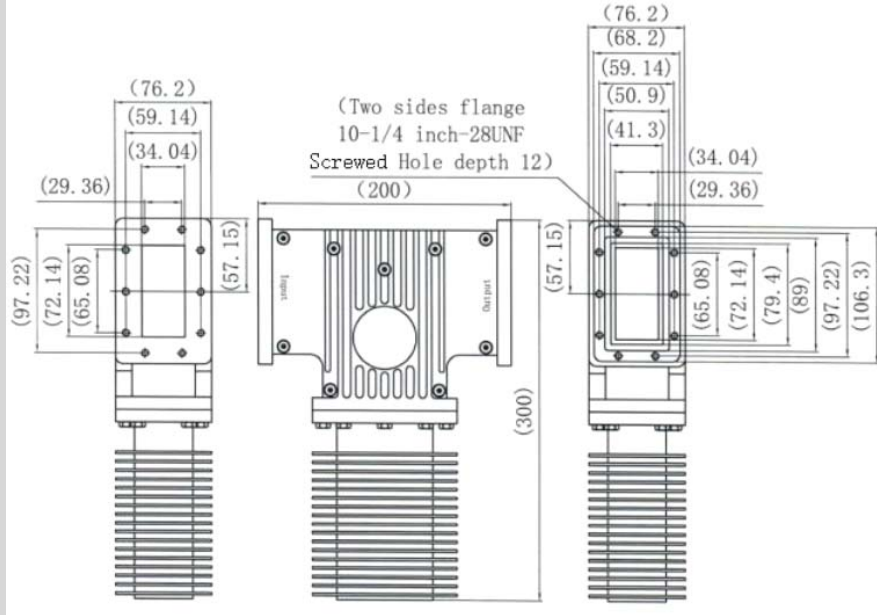
➤ Waveguide Isolator

S-Band Waveguide Isolator		
Electrical	Spec	Typical Spec
Frequency	2.7-2.9 GHz	2.7-2.9 GHz
VSWR	≤1.15	1.07

Insertion Loss	≤ 0.2 dB	0.18 dB
Isolation	≥ 20 dB	27 dB
Power	4KW (Pulse)	—

Outline Drawing

Dimensions unit : mm

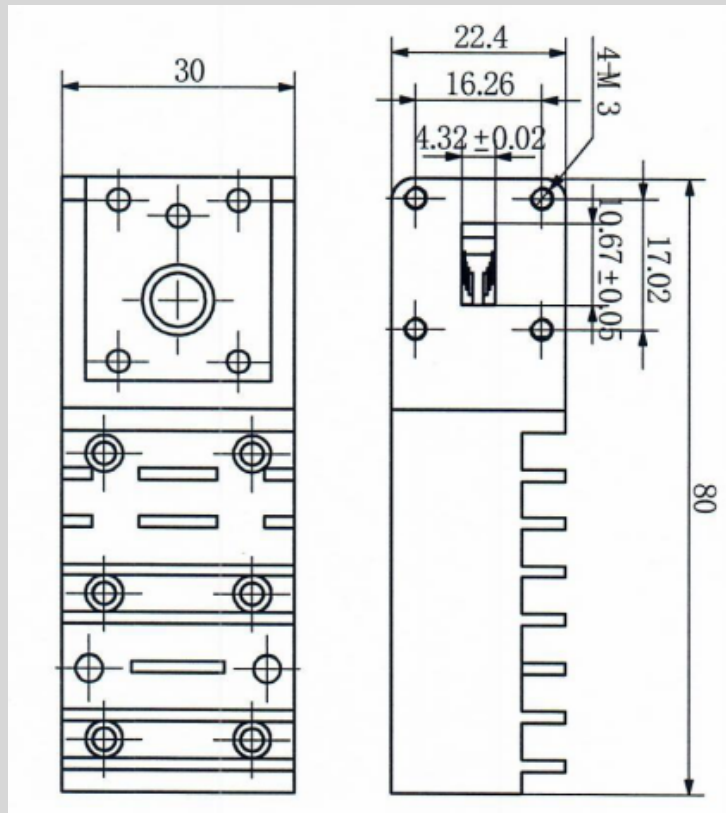


K-Band Waveguide Isolator

Electrical	Spec	Typical Spec
Frequency	18-26.5 GHz	18-26.5 GHz
VSWR	≤ 1.2	1.15
Insertion Loss	≤ 0.3 dB	0.25 dB
Isolation	≥ 20 dB	23 dB
Power	150W (CW)	—

Outline Drawing

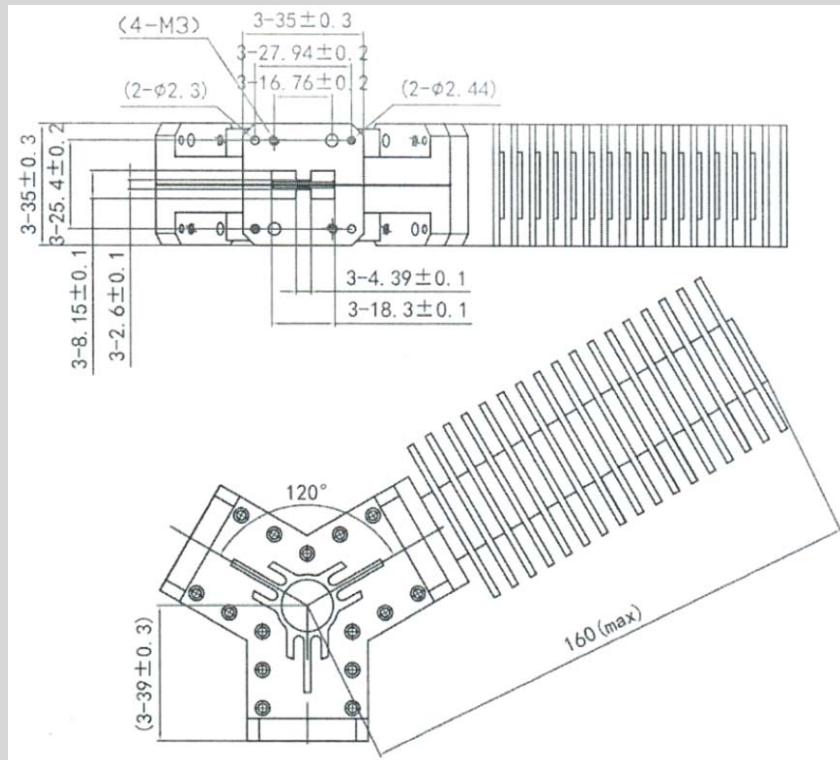
Dimensions unit : mm



X-Ku Band Waveguide Isolator

Electrical	Spec	Typical Spec
Frequency	8-18 GHz	8-18 GHz
VSWR	≤1.5	1.45
Insertion Loss	≤0.6 dB	0.5 dB
Isolation	≥15 dB	17 dB
Power	250W (CW)	—
Outline Drawing		

Dimensions unit : mm

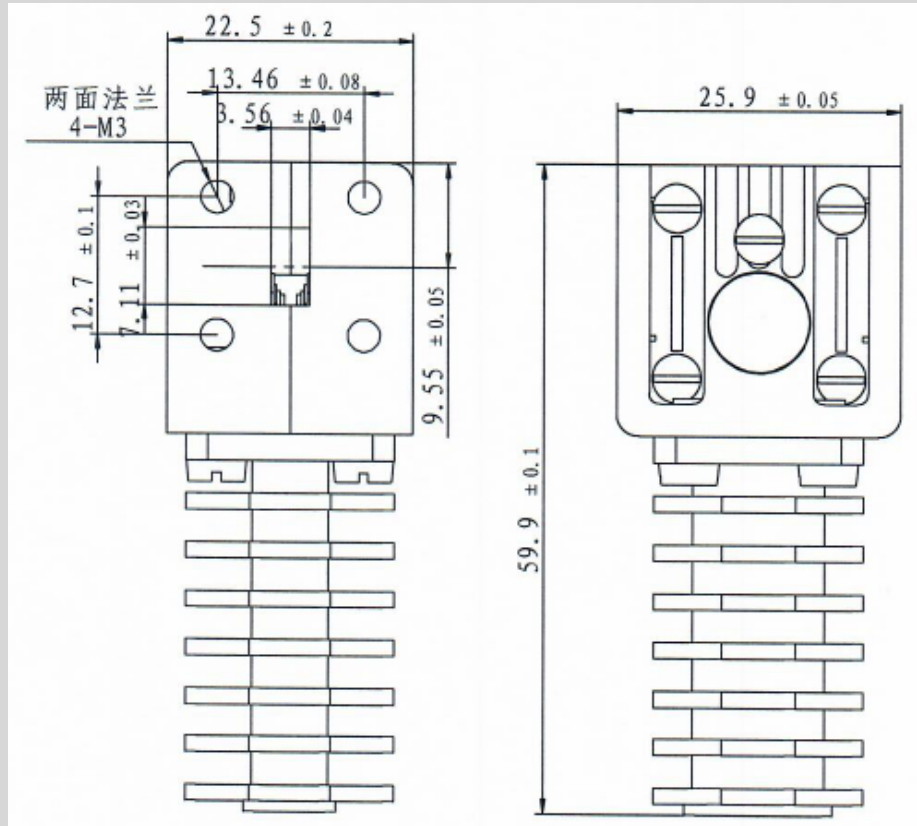


Ka-Band Waveguide Isolator

Electrical	Spec	Typical Spec
Frequency	26.5-40 GHz	26.5-40 GHz
VSWR	≤1.5	1.45
Insertion Loss	≤0.5 dB	0.45 dB
Isolation	≥15 dB	17 dB
Power	80W (CW)	—

Outline Drawing

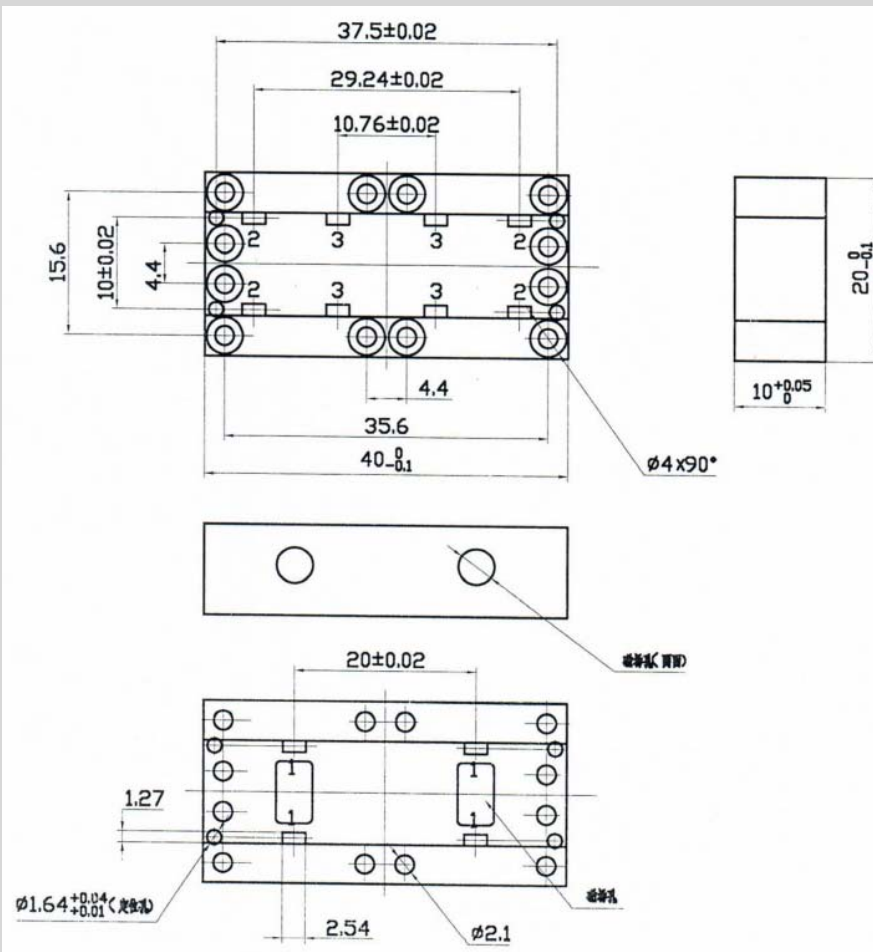
Dimensions unit : mm



92-96GHz Waveguide Isolator

Electrical	Spec	Typical Spec
Frequency	92-96 GHz	92-96 GHz
VSWR	≤ 1.35	1.3
Insertion Loss	≤ 0.8 dB	0.7 dB
Isolation	≥ 18 dB	20 dB
Power	1W	—
Outline Drawing		

Dimensions unit : mm



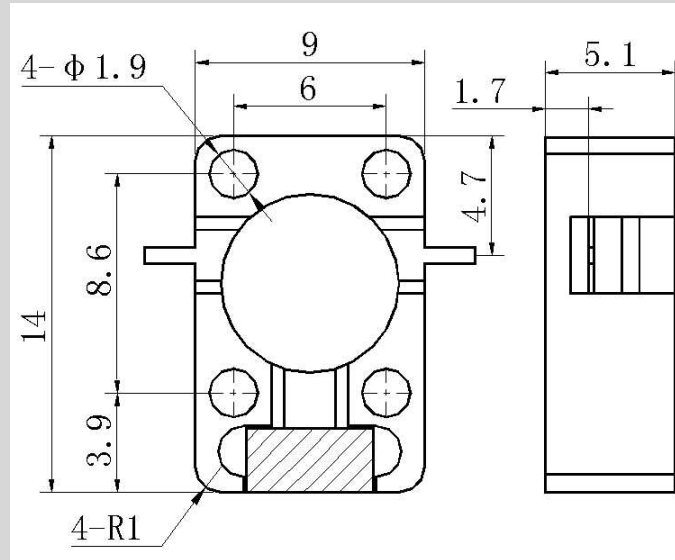
➤ Stripline Isolator

X-band Stripline Isolator

Electrical	Spec	Typical Spec
Frequency	8-12 GHz	8-12 GHz
VSWR	≤1.20	1.10
Insertion Loss	≤0.4 dB	0.25 dB
Isolation	≥20dB	30 dB
Power	50W (CW)	—

Outline Drawing

Dimensions unit : mm

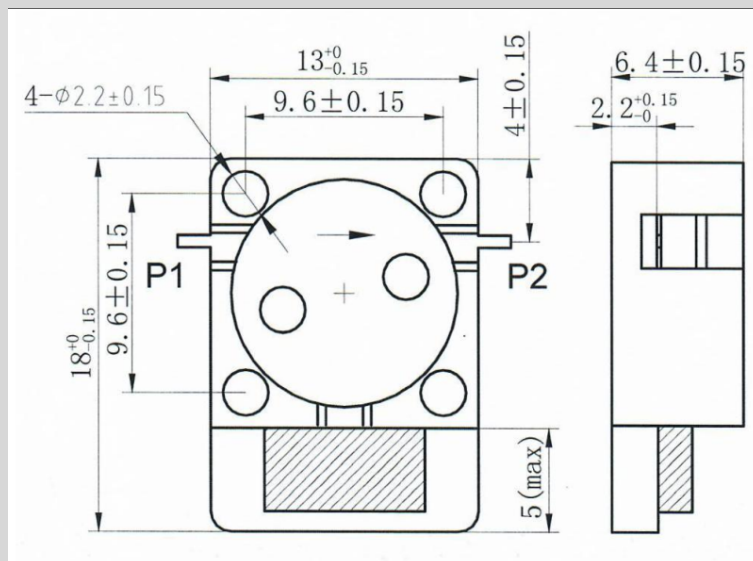


X-band Stripline Isolator

Electrical	Spec	Typical Spec
Frequency	8-8.4 GHz	8-8.4 GHz
VSWR	≤1.25	1.08
Insertion Loss	≤0.3 dB	0.18 dB
Isolation	≥20dB	25 dB
Power	200 W (pulse)	—

Outline Drawing

Dimensions unit : mm

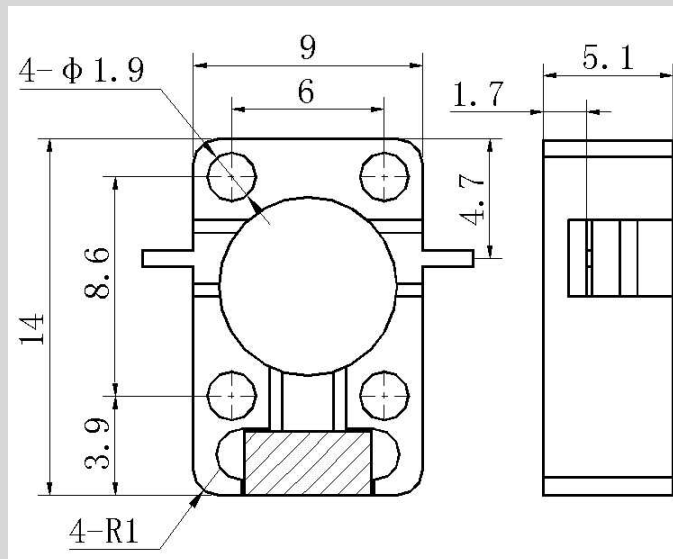


Ku-band Stripline Isolator

Electrical	Spec	Typical Spec
Frequency	14-18 GHz	14-18 GHz
VSWR	≤ 1.35	1.28
Insertion Loss	≤ 0.5 dB	0.5 dB
Isolation	≥ 16 dB	16.5 dB
Power	30W (CW)	—

Outline Drawing

Dimensions unit : mm

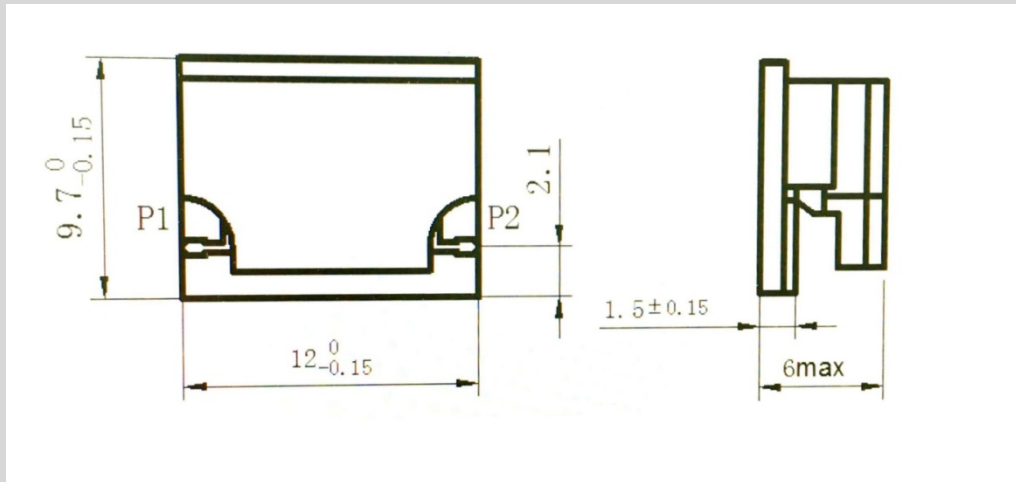


C-Ku Band Microstrip Isolator

Electrical	Spec	Typical Spec
Frequency	6-18 GHz	6-18 GHz
VSWR	≤ 1.7	1.62
Insertion Loss	≤ 1.0 dB	0.9 dB
Isolation	≥ 13 dB	15 dB
Power	16W (CW)	—

Outline Drawing

Dimensions unit : mm

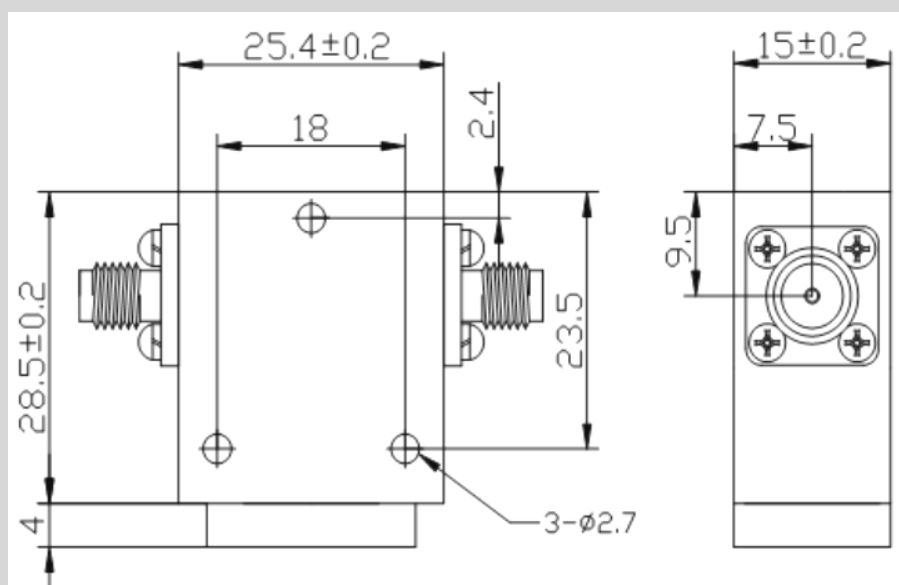


S-band Coaxial Isolator

Electrical	Spec	Typical Spec
Frequency	2.7-2.9 GHz	2.7-2.9 GHz
VSWR	≤1.20	1.10
Insertion Loss	≤0.3 dB	0.2 dB
Isolation	≥20dB	25 dB
Power	60W (CW)	—

Outline Drawing

Dimensions unit : mm



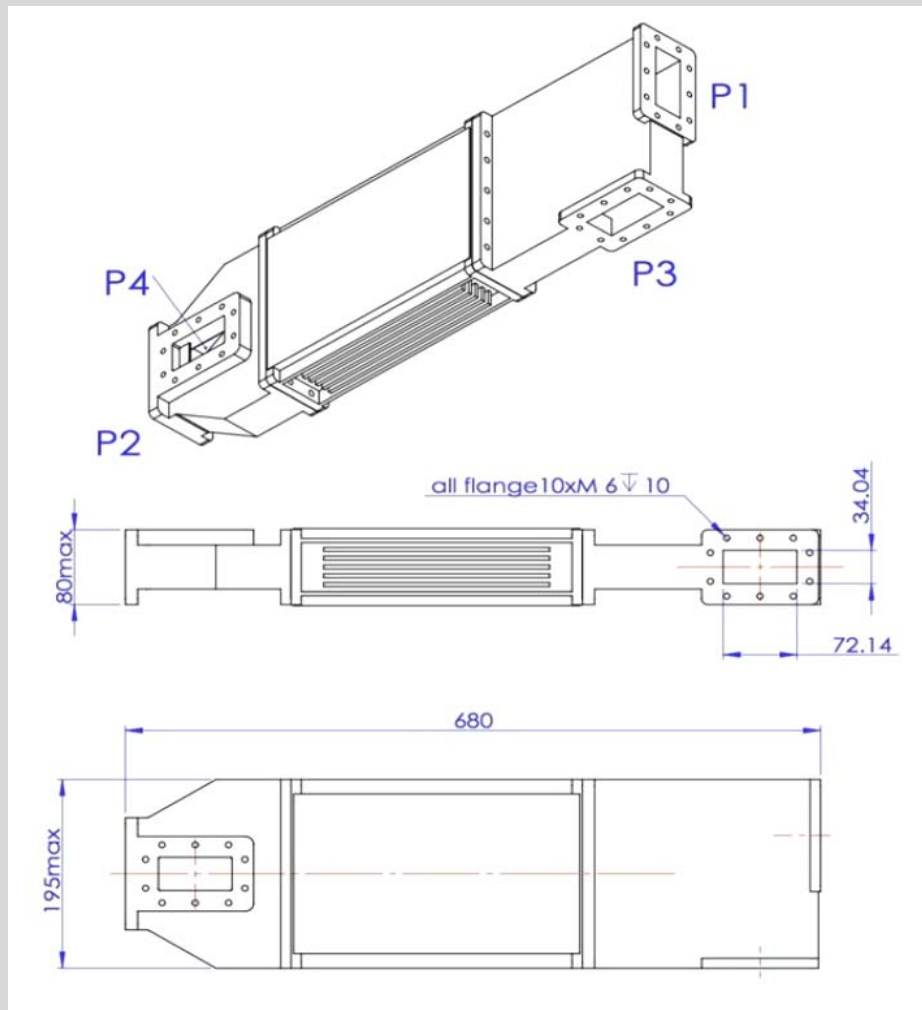
➤ Waveguide Circulator

S-Band Waveguide Circulator

Electrical	Spec	Typical Spec
Frequency	2.7-2.9 GHz	2.7-2.9 GHz
VSWR	≤1.2	1.09
Insertion Loss	≤0.2 dB	0.18 dB
Isolation	≥25 dB	30 dB
Power	40KW (pulse)	—

Outline Drawing

Dimensions unit : mm

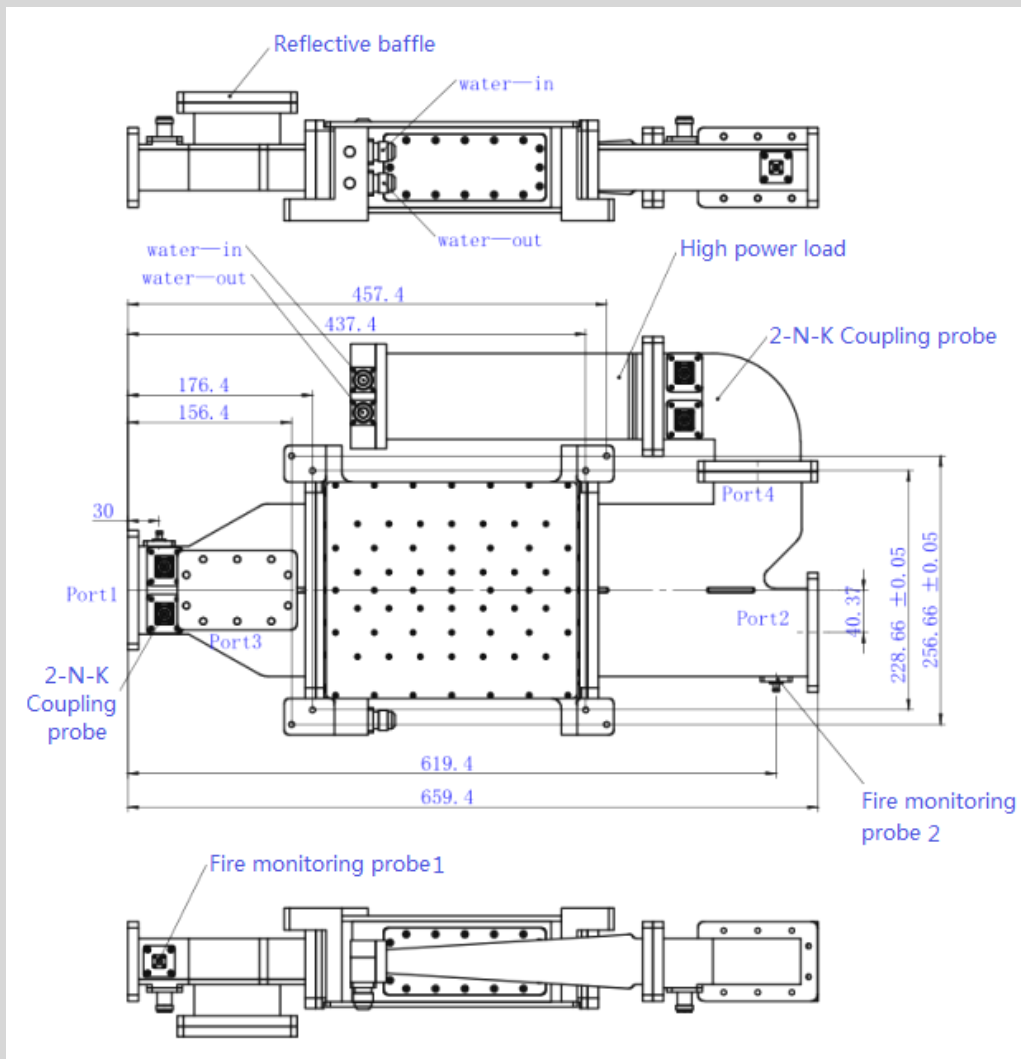


S-Band Phase Shift Waveguide Circulator

Electrical	Spec	Typical Spec
Frequency	2.998 GHz	2.998 GHz
VSWR	≤ 1.15	1.08
Insertion Loss	≤ 0.2 dB	0.15 dB
Isolation	≥ 28 dB	31 dB
Power	40MW (pulse)	—

Outline Drawing

Dimensions unit : mm

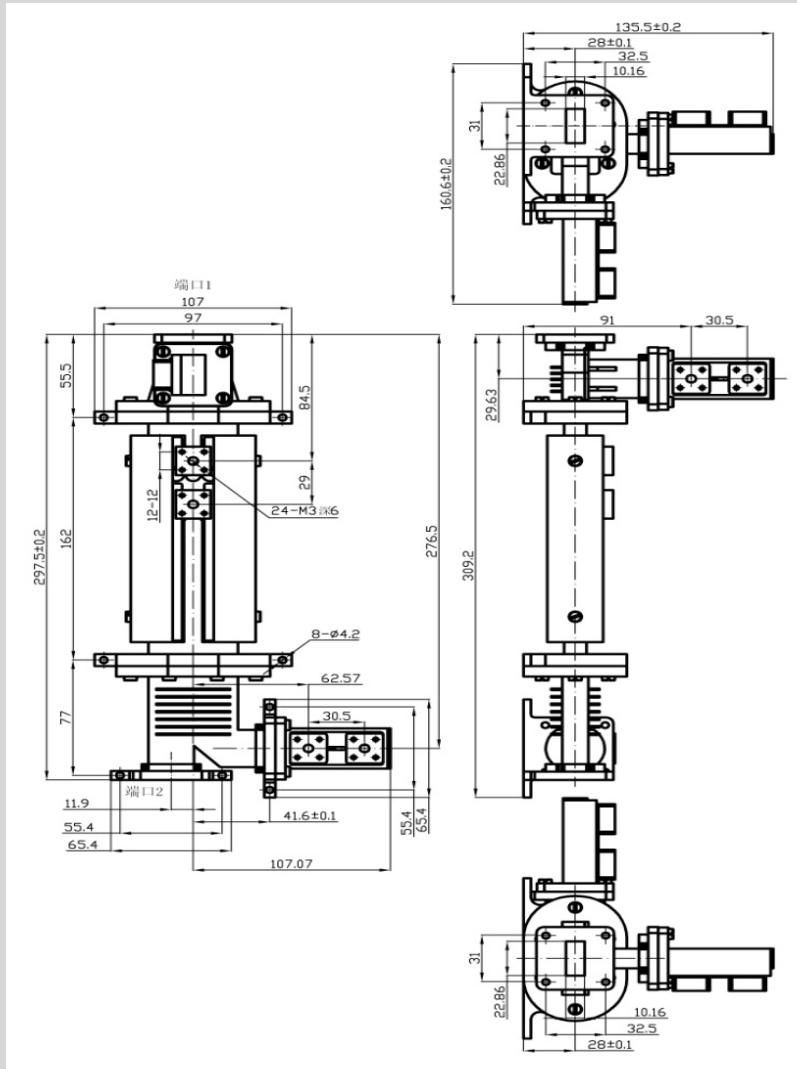


X-Band Phase Shift Waveguide Circulator

Electrical	Spec	Typical Spec
Frequency	10-10.6 GHz	10-10.6 GHz
VSWR	≤ 1.15	1.09
Insertion Loss	≤ 0.3 dB	0.2 dB
Isolation	≥ 20 dB	25 dB
Power	28KW (pulse)	—

Outline Drawing

Dimensions unit : mm

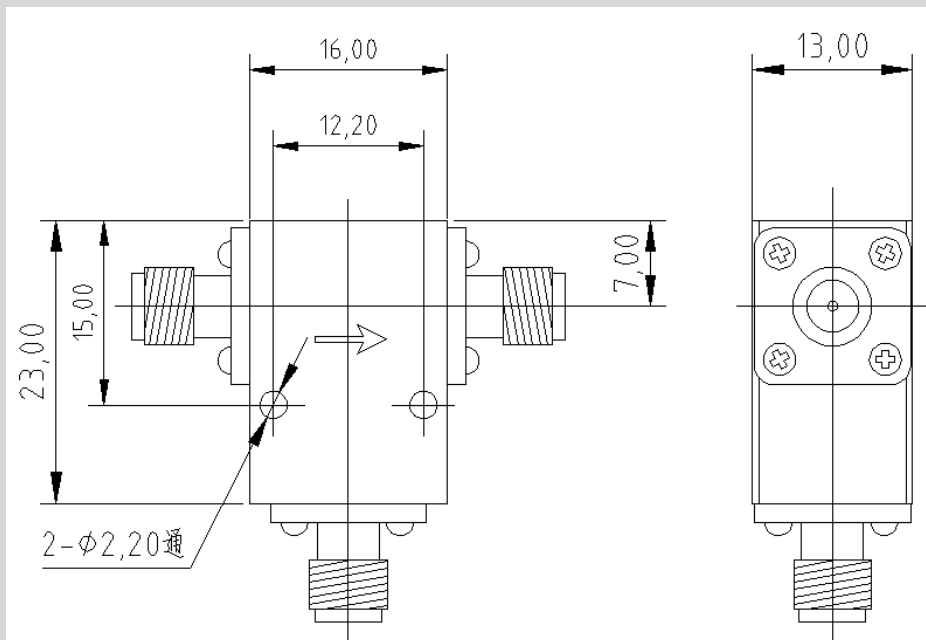


C-Band Coaxial Circulator

Electrical	Spec	Typical Spec
Frequency	4-8 GHz	4-8 GHz
VSWR	≤ 1.35	1.3
Insertion Loss	≤ 0.5 dB	0.45 dB
Isolation	≥ 17 dB	19 dB
Power	80W (pulse)	—

Outline Drawing

Dimensions unit : mm

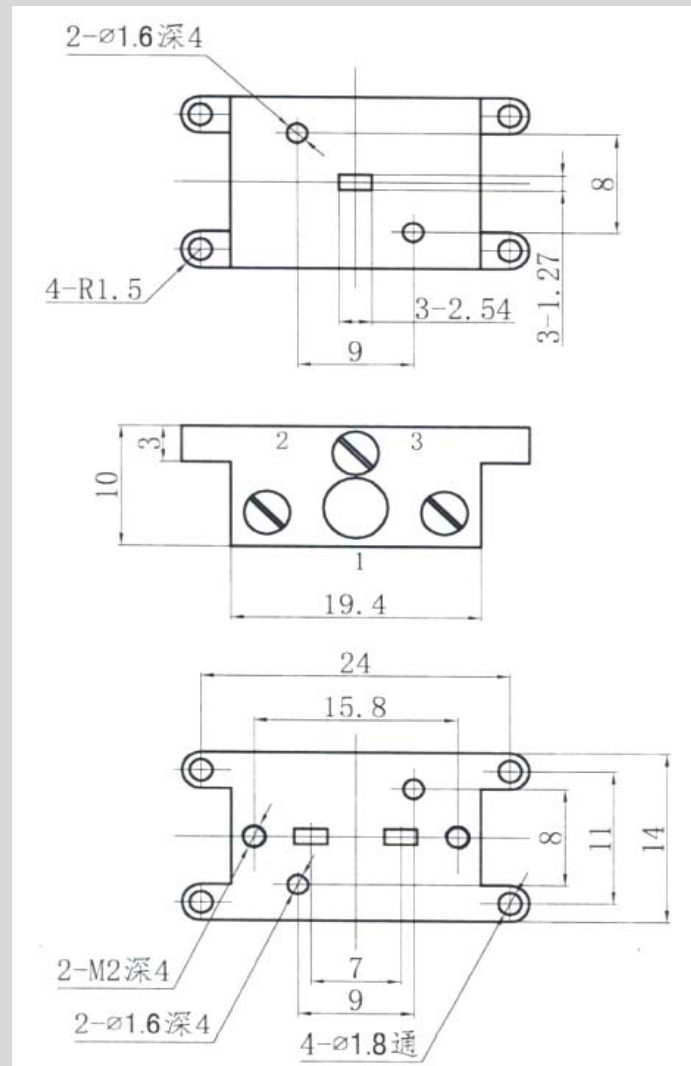


92-96GHz Waveguide Circulator

Electrical	Spec	Typical Spec
Frequency	92-96 GHz	92-96 GHz
VSWR	≤ 1.35	1.3
Insertion Loss	≤ 0.8 dB	0.7 dB
Isolation	≥ 18 dB	20 dB
Power	1W	—

Outline Drawing

Dimensions unit : mm



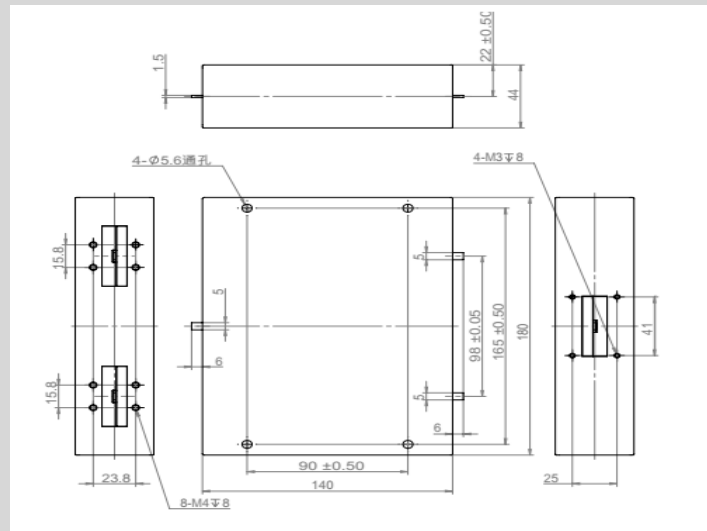
➤ Stripline Circulator

128MHz Stripline Circulator

Electrical	Spec	Typical Spec
Frequency	0.128 GHz	0.128 GHz
VSWR	≤1.2	1.15
Insertion Loss	≤0.40 dB	0.32 dB
Isolation	≥20dB	25 dB
Power	22KW (pulse)	Average power 2KW

Outline Drawing

Dimensions unit : mm

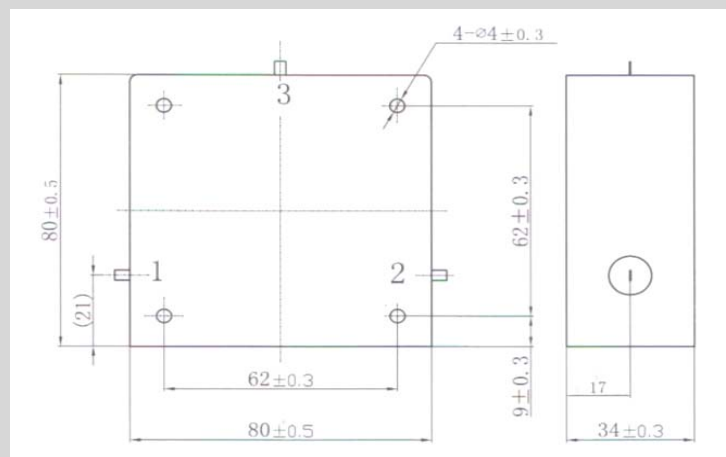


180.7-190.7MHz Stripline Circulator

Electrical	Spec	Typical Spec
Frequency	0.1807-0.1907 GHz	0.1807-0.1907 GHz
VSWR	≤ 1.2	1.15
Insertion Loss	≤ 0.30 dB	0.25 dB
Isolation	≥ 20 dB	25 dB
Power	2KW CW	—

Outline Drawing

Dimensions unit : mm

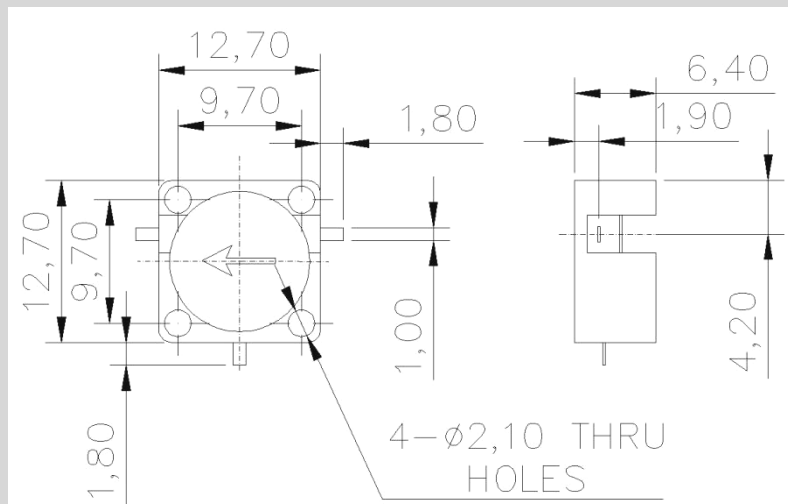


S-Band Stripline Circulator

Electrical	Spec	Typical Spec
Frequency	2.9-3.3 GHz	2.9-3.3 GHz
VSWR	≤ 1.22	1.17
Insertion Loss	≤ 0.30 dB	0.23 dB
Isolation	≥ 20 dB	22 dB
Power	150 W (Pules)	—

Outline Drawing

Dimensions unit : mm

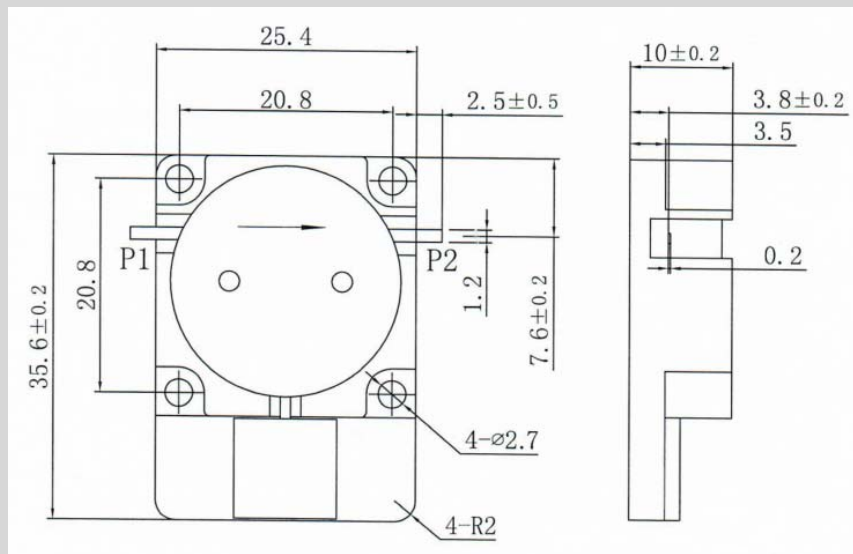


S-Band Stripline Isolator

Electrical	Spec	Typical Spec
Frequency	2.7-2.9 GHz	2.7-2.9 GHz
Return loss	≥ 20 dB	24 dB
Insertion Loss	≤ 0.25 dB	0.19 dB
Isolation	≥ 20 dB	24 dB
Power	2KW (pulse)	—

Outline Drawing

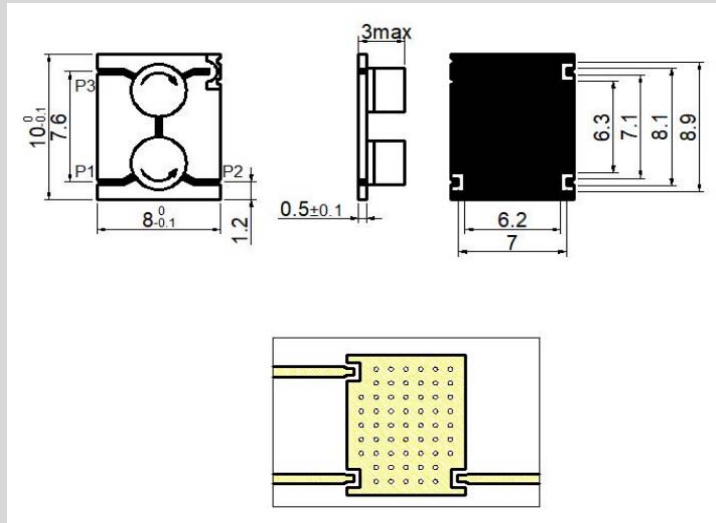
Dimensions unit : mm



X-band SMT Circulator

Electrical	Spec	Typical Spec
Frequency	8.5-10.5 GHz	8.5-10.5 GHz
VSWR	≤1.3	1.25
Insertion Loss	≤0.45 dB	0.40 dB
	≤0.90 dB	0.82 dB
Isolation	≥18 dB	19 dB
	≥30 dB	31 dB
Power	20W (pulse)	—
Outline Drawing		

Dimensions unit : mm

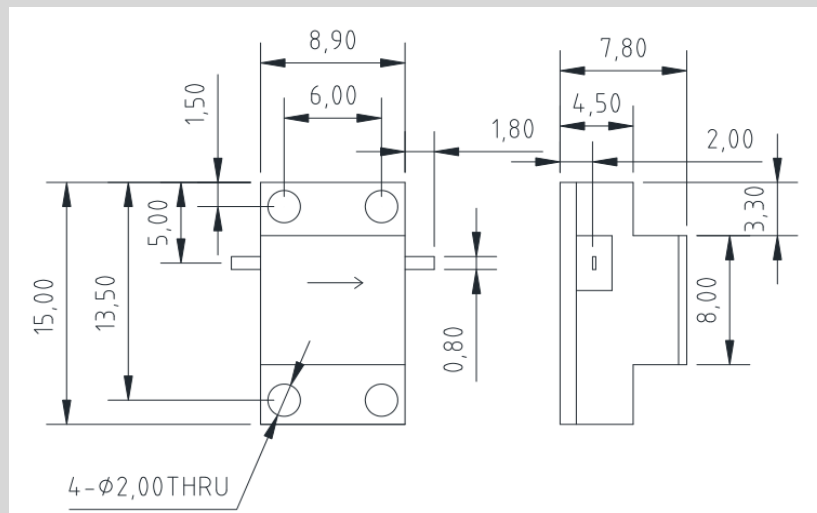


Ku-band Stripline Circulator

Electrical	Spec	Typical Spec
Frequency	16-17 GHz	16-17 GHz
VSWR	≤1.25	1.18
Insertion Loss	≤0.4 dB	0.35 dB
Isolation	≥20 dB	22 dB
Power	60W (pulse)	—

Outline Drawing

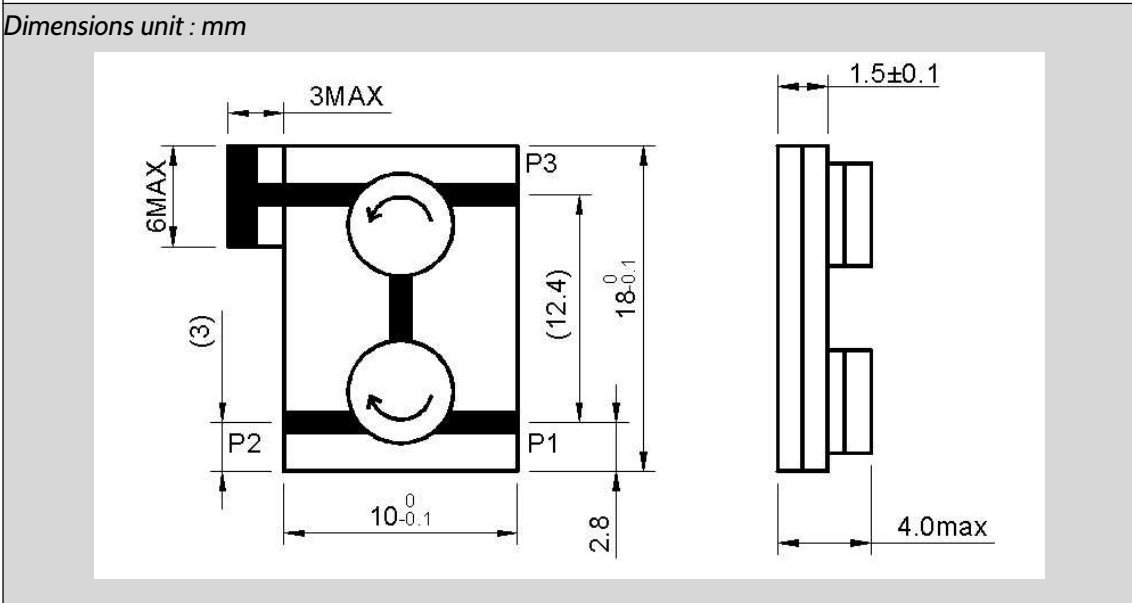
Dimensions unit : mm



C-band Microstrip Circulator

Electrical	Spec	Typical Spec
Frequency	5-6 GHz	5-6 GHz
VSWR	≤ 1.25	1.16
Insertion Loss	≤ 0.5 dB ≤ 1.0 dB	0.44 dB 0.92 dB
Isolation	≥ 18 dB ≥ 30 dB	19.5 dB 31 dB
Power	30W (pulse)	—

Outline Drawing

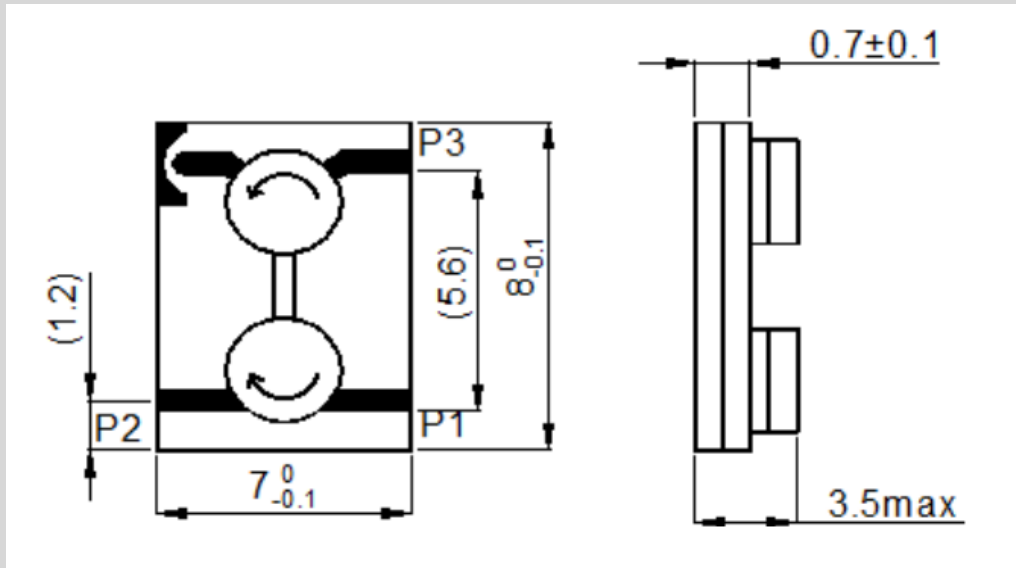


Ku-band Microstrip Circulator

Electrical	Spec	Typical Spec
Frequency	14-18 GHz	14-18 GHz
VSWR	≤ 1.4	1.27
Insertion Loss	≤ 0.65 dB ≤ 1.1 dB	0.6 dB 1.0 dB
Isolation	≥ 13 dB ≥ 25 dB	15 dB 27 dB
Power	20W (pulse)	—

Outline Drawing

Dimensions unit : mm

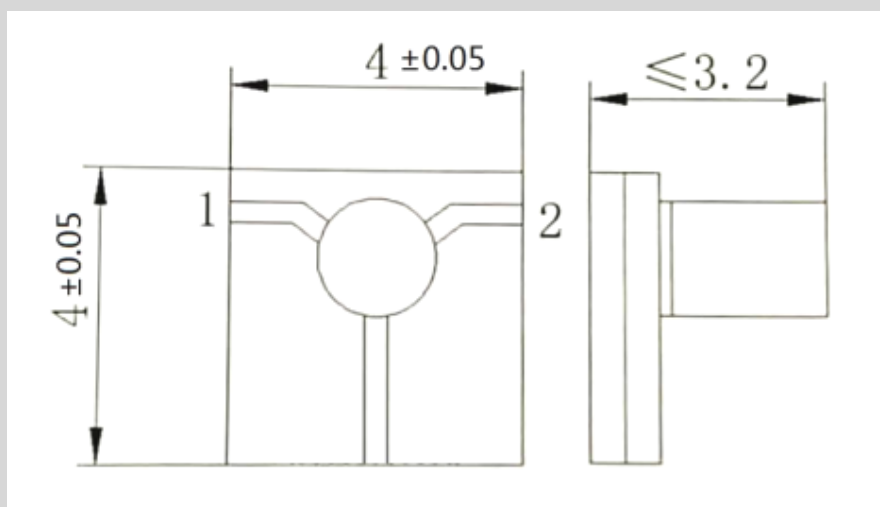


Ka-band Microstrip Circulator

Electrical	Spec	Typical Spec
Frequency	26.5-40 GHz (10%)	33-37 GHz
VSWR	≤ 1.3	1.25
Insertion Loss	≤ 0.8 dB	0.6 dB
Isolation	≥ 18 dB	19 dB
Power	15W (pulse)	—

Outline Drawing

Dimensions unit : mm





FengHuiNan Road NO.34, High-Tech Zone, Xi'an, China
E-mail: sales@dolphmicrowave.com
Web: www.dolphmicrowave.com



Phone: +86 (29) 8881 0979
sales@dolphmicrowave.com - www.dolphmicrowave.com
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