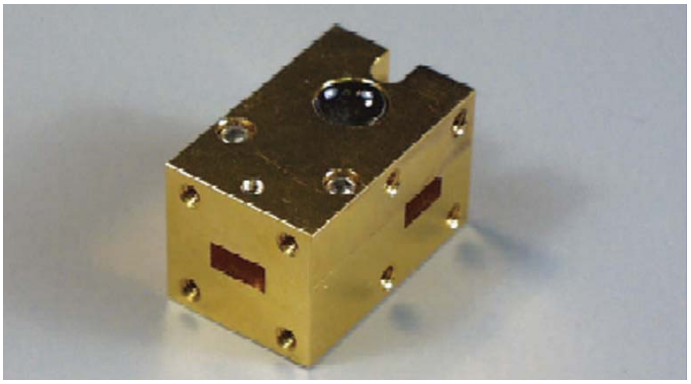


Please Note:

- Smaller versions of certain model numbers are available.
- Consult Mi-Wave for current dimensions.

Description

Mi-Wave's 173 series is an H-plane, three-port Y-junction ferrite device. Reflected energy is circulated to isolate the input. All external mating surfaces are machined to extreme flatness to provide connection to standard waveguide flanges for minimum discontinuity. The 173 Series Circulators are available in standard waveguide sizes from 12.4 to 50 GHz, using square UG-419, UG-595 and 599 style flanges only.

- *Optimal Temperature Response*
- *Compact & Rugged*
- *Broad Bandwidth*
- *Low Loss*
- *Low VSWR*
- *High Isolation*

Applications

The 173 Series Y-Junction circulators are useful in transceivers, radars, and operational systems.

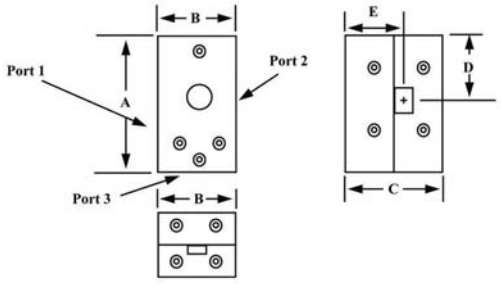
* Wider Bandwidths Available

Dimensional Specifications

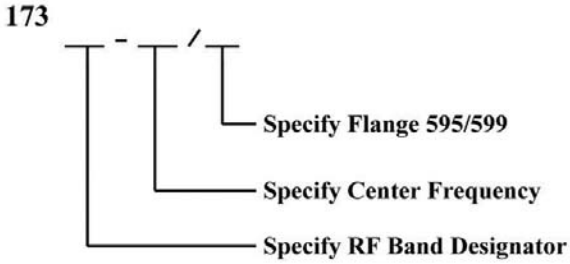
Model No.	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
173K	1.50	38.1	0.88	22.4	1.25	31.8	0.63	16.0	0.63	16.0
173A	1.20	30.5	0.75	19.1	0.75	19.1	0.38	9.7	0.38	9.7
173B	1.20	30.5	0.75	19.1	0.75	19.1	0.38	9.7	0.38	9.7

TECHNICAL SPECIFICATIONS
(TYPICAL)

Model No.	173K	173WR-34	173A	173B
Frequency Band (GHz)	18–26.5	22–33	26.5–40	33–50
Bandwidth[1]	1.8 GHz	1.8 GHz	1.5 GHz	1.3 GHz
Isolation[2] (dB)	18.0	18.0	18.0	18.0
Insertion Loss (dB)[1]	0.3	0.3	0.4	0.5
VSWR[2] (Typ)	1.30	1.30	1.30	1.30
Temperature Range	-15° to +65°C			
Peak Power (kW)	1.0	1.0	1.0	1.0
Average Power (Watts)	30	30	30	25
Weight (oz)	2.0	2.0	20	2.0
Flange Type	UG-595/U	UG-599/U	UG-599/U	UG-599/U



Ordering Information



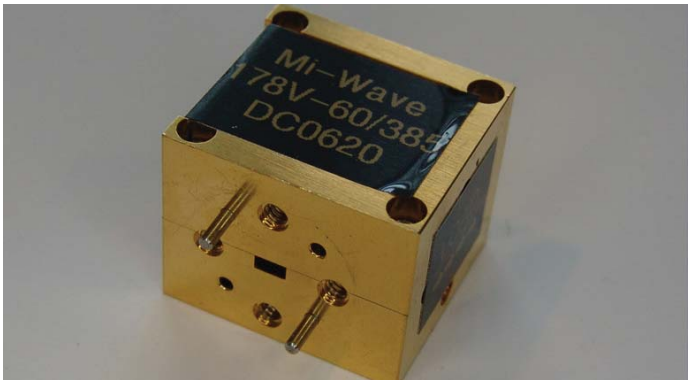
178 Series
Y-Junction Isolators

MI-WAVE®
Millimeter Wave Products Inc.

Description

Mi-Wave's 178 series is an H-plane, three-port Y-junction ferrite device with one arm internally terminated in a matched load. Reflected energy is circulated into this load to isolate the input. All external mating surfaces are machined to extreme flatness to provide connection to standard waveguide flanges for minimum discontinuity. The 179 Series isolators are available in standard waveguide sizes from 18.0 to 110 GHz, in round style flanges only.

- *Optimal Temperature Response*
- *Compact & Rugged*
- *Broad Bandwidth*
- *Low Loss*
- *Low VSWR*
- *High Isolation*



*Wider Bandwidths Available

Applications

The 178 Series Y-junction isolators are useful in test setup and operational systems. These devices provide a high degree of isolation between signal sources and system loads by sharply attenuating reflected signals with very low loss in the forward direction.

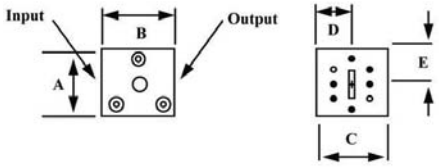
Dimensional Specifications

Model No.	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
178K	1.50	38.1	1.25	31.8	1.18	29.97	0.59	14.9	0.59	14.9
178A	1.50	38.1	1.25	31.8	1.18	29.97	0.59	14.9	0.59	14.9
178B	1.50	38.1	1.25	31.8	1.18	29.97	0.59	14.9	0.59	14.9
178U	1.50	38.1	1.25	31.8	1.18	29.97	0.59	14.9	0.59	14.9
178V	1.10	27.9	1.00	25.4	0.90	22.9	0.50	12.7	0.50	11.4
178E	1.10	27.9	1.00	25.4	0.90	22.9	0.50	12.7	0.50	11.4
178W	1.10	27.9	1.00	25.4	0.90	22.9	0.50	12.7	0.50	11.4
178F	1.10	27.9	1.00	25.4	0.90	22.9	0.50	12.7	0.50	11.4

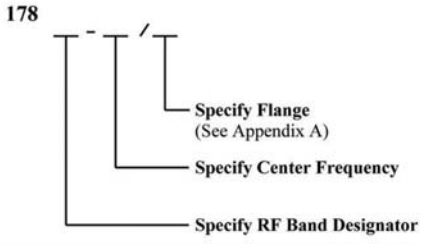
TECHNICAL SPECIFICATIONS
(TYPICAL)

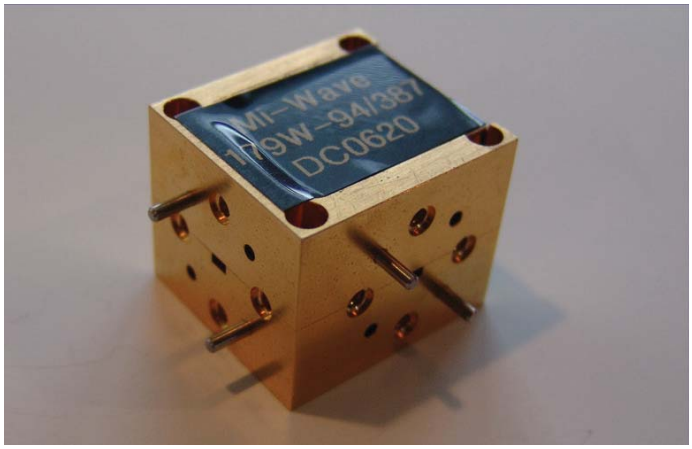
Model No.	178K	178A	178B	178U	178V	178E	178W	178F
Frequency Band (GHz)	18–26.5	26.5–40	33–50	40–60	50–75	60–90	75–110	90–140
Bandwidth[1]	1.8 GHz	1.5 GHz	1.3 GHz	1.3 GHz	1.5 GHz	1.5 GHz	1.5 GHz	1.5 GHz
Isolation[2] (dB) (*typ*)	20.0	20.0	20.0	18.0	18.0	15.0	15.0	15.0
Insertion Loss (dB)[1] (*typ*)	0.4	0.4	0.5	0.7	0.8	0.9	1.0	1.3
VSWR Max (*typ*)	1.30	1.30	1.30	1.35	1.40	1.4	1.4	1.4
Temperature Range	-15° to +65°C							
Peak Power (kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Average Power (Watts)								
Forward	30	30	25	15	110	5	5	2
Backward	1.5	1.0	0.8	0.4	0.3	0.2	0.2	0.2
Weight (oz)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Flange Type	UG-425/U	UG-381/U	UG-383/U	UG-383/U	UG-385/U	UG-387/U	UG-387/U	UG-387/U

1. Specify center frequency.



Ordering Information





Description

Mi-Wave's 179 is an H-plane, three-port Y-junction ferrite device. All external mating surfaces are machined to extreme flatness to provide connection to standard waveguide flanges for minimum discontinuity. The 179 Series circulators are available in standard waveguide sizes from 18.0 to 110 GHz, in round style flanges only.

- *Low Loss*
- *Low VSWR*
- *High Isolation*
- *Broad Bandwidth*
- *Compact & Rugged*
- *Optimal Temperature Response*

Applications

179 Series Y-junction circulators are useful in test setup and operational systems

* Wider Bandwidths Available

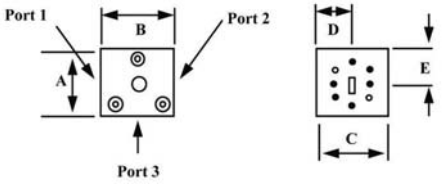
Dimensional Specifications

Model No.	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
179K	1.50	38.1	1.25	31.8	1.18	29.97	0.59	14.9	0.59	14.9
179A	1.50	38.1	1.25	31.8	1.18	29.97	0.59	14.9	0.59	14.9
179B	1.50	38.1	1.25	31.8	1.18	29.97	0.59	14.9	0.59	14.9
179U	1.50	38.1	1.25	31.8	1.18	29.97	0.59	14.9	0.59	14.9
179V	1.10	27.9	1.00	25.4	0.90	22.9	0.50	12.7	0.50	11.4
179E	1.10	27.9	1.00	25.4	0.90	22.9	0.50	12.7	0.50	11.4

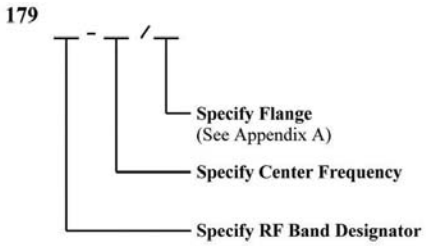
TECHNICAL SPECIFICATIONS
(TYPICAL)

Model No.	179K	179A	179B	179U	179V	179E	179W
Frequency Band (GHz)	18–26.5	26.5–40	33–50	40–60	50–75	60–90	75–110
Bandwidth[1]	1.8 GHz	1.3 GHz	1.2 GHz	1.2 GHz	1.3 GHz	1.3 GHz	1.3 GHz
Isolation[2] (dB) (*typ*)	18.0	18.0	18.0	15.0	15.0	15.0	15.0
Insertion Loss (dB)[1] (*typ*)	0.4	0.4	0.5	0.7	1.0	1.0	1.0
VSWR Max (*typ*)	1.30	1.30	1.30	1.35	1.40	1.4	1.4
Temperature Range	-15° to +65°C				0° to +50°C		
Peak Power (kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Average Power (Watts)	30	30	25	15	10	5	5
Weight (oz)	2.0	2.0	2.0	2.0	3.0	3.0	3.0
Flange Type	UG-425/U	UG-381/U	UG-383/U	UG-383/U	UG-385/U	UG-387/U	UG-387/U

1. Specify center frequency.



Ordering Information



Description

Mi-Wave's 180 series is an H-plane, three-junction, three-port, Y-junction ferrite device. All external mating surfaces are machined to extreme flatness to provide connection to standard waveguide flanges for minimum discontinuity.

- *Low Loss*
- *Low VSWR*
- *High Isolation (30 db typ.)*

The 180 Series circulators are available in standard wave-guide sizes from 18.00 to 110 GHz.

Applications

The 180 Series Y-junction circulators are useful in radar, sensing and communication systems.

Dimensional Specifications

Model No.	A		B		C		D		E	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
180K										
180A										
180B										
180U										
180V										
180E										
180W										

K–W Band please consult MI-Wave for current outline

TECHNICAL SPECIFICATIONS
(TYPICAL)

Model No.	180K	180A	180B	180U	180V	180E	180W
Frequency Band (GHz)	18–26.5	26.5–40	33–50	40–60	50–75	60–90	75–110
Bandwidth[1]	1.2 GHz	1.2 GHz	1.0 GHz	1.0 GHz	1.0 GHz	1.0 GHz	1.0 GHz
Isolation[2] (dB) *(typ)*	>30	>30	>30	>30	>30	>30	>30
Insertion Loss (dB)[1] *(typ)*	0.7	0.8	0.9	1.0	1.2	1.4	1.5
VSWR *(typ)*	1.30	1.30	1.30	1.35	1.40	1.4	1.4
Temperature Range	-0° to +40°C				0° to +40°C		
Peak Power (kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Average Power (Watts)	30	30	25	15	10	5	5
Weight (oz)	3.0	3.0	3.0	3.0	5.0	5.0	5.0
Flange Type	UG-595/U	UG-599/U	UG-383/U	UG-383/U	UG-385/U	UG-387/U	UG-387/U

1. Specify center frequency.

Ordering Information