

## NDC0915D

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

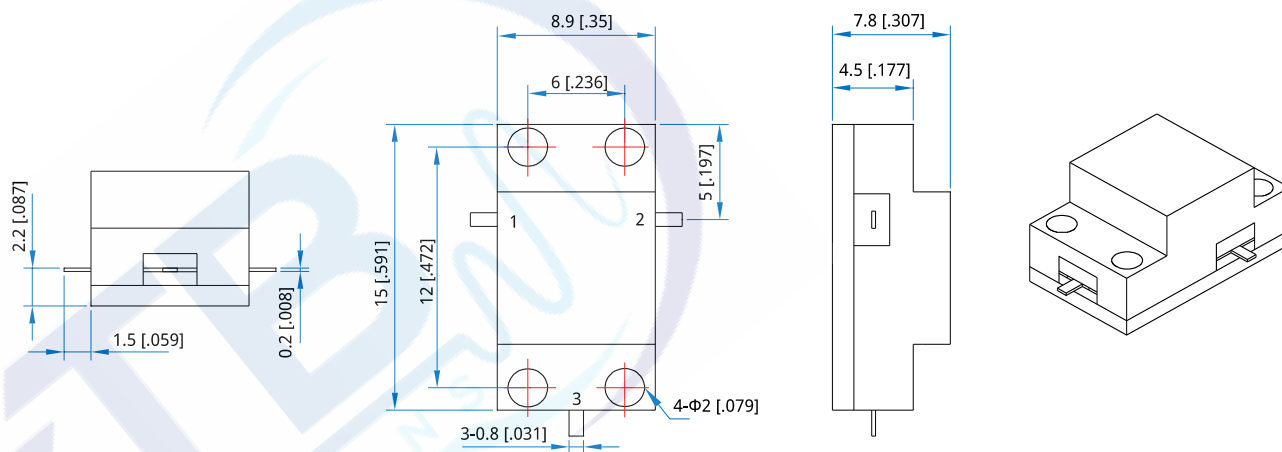
#### Description

NDC0915D series Drop-In Circulators cover frequency range 7~18GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 7000~9000          | 2000               | 0.50                        | 18.0                   | 1.30           | 10~30                | -30~+70             |
| 7700~8100          | 400                | 0.40                        | 20.0                   | 1.25           | 10~30                | -30~+70             |
| 8000~10000         | 2000               | 0.40                        | 18.0                   | 1.30           | 10~30                | -30~+70             |
| 8000~12000         | 4000               | 0.60                        | 17.0                   | 1.35           | 10~30                | -30~+70             |
| 8300~8500          | 200                | 0.30                        | 23.0                   | 1.20           | 10~30                | -30~+70             |
| 8900~9600          | 700                | 0.40                        | 20.0                   | 1.25           | 10~30                | -30~+70             |
| 9200~9500          | 300                | 0.30                        | 23.0                   | 1.20           | 10~30                | -30~+70             |
| 9500~10500         | 1000               | 0.40                        | 20.0                   | 1.25           | 10~30                | -30~+70             |
| 10500~12500        | 2000               | 0.40                        | 20.0                   | 1.20           | 10~30                | -30~+70             |
| 11000~14000        | 3000               | 0.60                        | 18.0                   | 1.35           | 10~30                | -30~+70             |
| 12000~18000        | 6000               | 0.60                        | 17.0                   | 1.35           | 10~30                | -30~+70             |
| 13700~14500        | 800                | 0.40                        | 20.0                   | 1.20           | 10~30                | -30~+70             |
| 15000~15400        | 400                | 0.35                        | 23.0                   | 1.20           | 10~30                | -30~+70             |
| 15700~16000        | 300                | 0.40                        | 20.0                   | 1.20           | 10~30                | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]



## Mechanical

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Size\*1: 8.9\*15\*7.8mm  
0.35\*0.591\*0.307in  
Connector Type: Strip line  
Mounting: 4-Φ2mm through-hole

[1] Exclude connectors

## Drop-In Circulators

### How To Order

**NDC0915D-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

### Examples:

To order a NDC0915D series Circulator, 15.7~16GHz, 30W,  
specify NDC0915D-15700-16000-30.

Customization is available upon request.

## NDC1220D

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

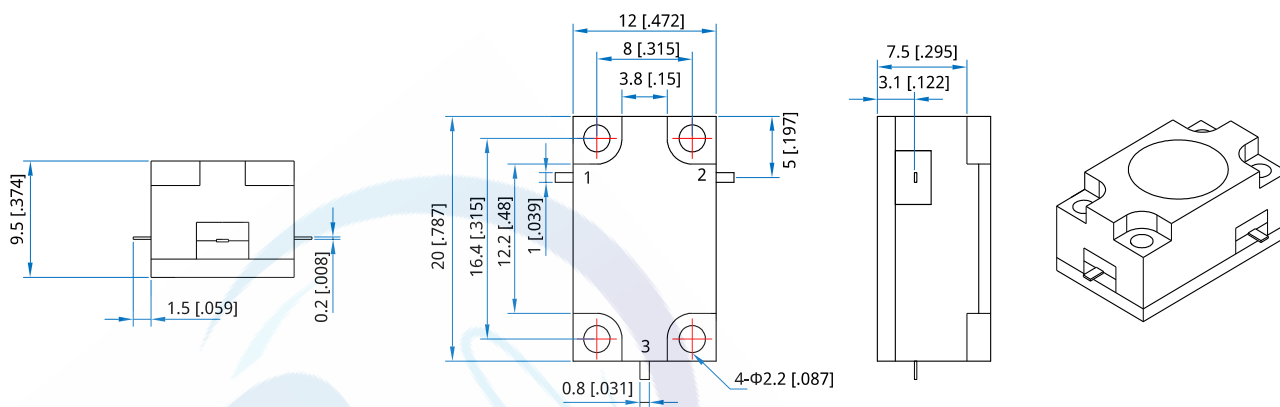
#### Description

NDC1220D series Drop-In Circulators cover frequency range 5~6.5GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 5100~5900          | 800                | 0.50                        | 18.0                   | 1.30           | 60                   | -30~+70             |
| 5150~5500          | 350                | 0.40                        | 20.0                   | 1.25           | 60                   | -30~+70             |
| 5230~5340          | 110                | 0.30                        | 23.0                   | 1.20           | 60                   | -30~+70             |
| 5400~5900          | 500                | 0.40                        | 20.0                   | 1.25           | 60                   | -30~+70             |
| 5700~5900          | 200                | 0.30                        | 23.0                   | 1.20           | 60                   | -30~+70             |
| 5780~6000          | 220                | 0.30                        | 23.0                   | 1.25           | 60                   | -30~+70             |
| 5800~6500          | 700                | 0.40                        | 20.0                   | 1.25           | 60                   | -30~+70             |
| 6500~7000          | 500                | 0.40                        | 20.0                   | 1.25           | 60                   | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance: ±0.2mm [±0.008in]

#### Mechanical

Size\*1: 12\*20\*9.5mm  
0.472\*0.787\*0.374in  
Connector Type: Strip line  
Mounting: 4-Φ2.2mm through-hole

[1] Exclude connectors

#### How To Order

**NDC1220D-X-Y-Z**  
X: Start frequency in MHz  
Y: Stop frequency in MHz  
Z: Average Power in W

#### Examples:

To order a NDC1220D series Circulator, 5.7~6GHz, 50W, specify NDC1220D-5700-6000-50.

Customization is available upon request.

## NDC1313M

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

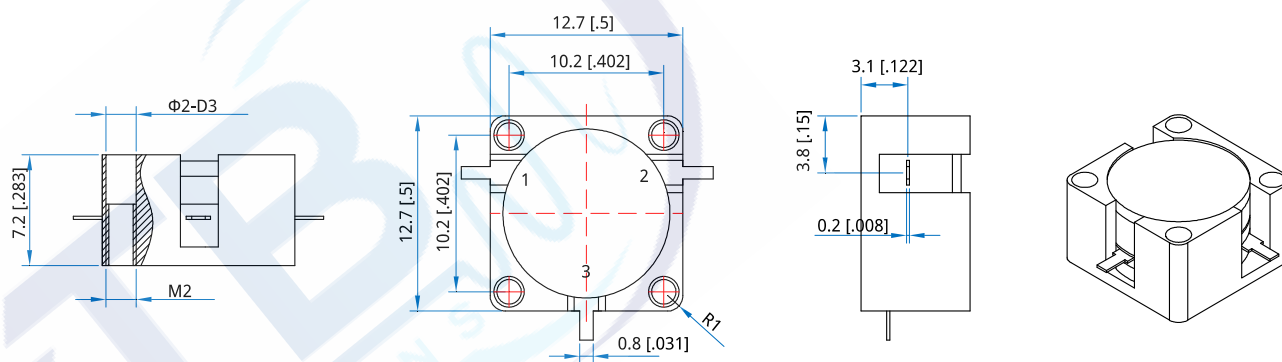
#### Description

NDC1313M series Drop-In Circulators cover frequency range 1.7~6GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 1710~1785          | 75                 | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 1805~1880          | 75                 | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 1805~1920          | 115                | 0.40                        | 20.0                   | 1.25           | 60~100               | -30~+70             |
| 1880~1920          | 40                 | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2110~2170          | 60                 | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2300~2400          | 100                | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2400~2500          | 100                | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2500~2700          | 200                | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2700~2900          | 200                | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2900~3100          | 200                | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 3000~5000          | 200                | 0.35                        | 20.0                   | 1.25           | 60~100               | -30~+70             |
| 3250~3450          | 200                | 0.35                        | 20.0                   | 1.25           | 60~100               | -30~+70             |
| 3300~3500          | 200                | 0.35                        | 20.0                   | 1.25           | 60~100               | -30~+70             |
| 3500~3650          | 150                | 0.35                        | 20.0                   | 1.25           | 60~100               | -30~+70             |
| 5100~5900          | 800                | 0.45                        | 18.0                   | 1.30           | 60~100               | -30~+70             |
| 5700~5900          | 200                | 0.40                        | 20.0                   | 1.25           | 60~100               | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance: ±0.2mm [±0.008in]





## Drop-In Circulators

### Mechanical

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|                 |                                    |
|-----------------|------------------------------------|
| Size*1:         | 12.7*12.7*7.2mm<br>0.5*0.5*0.283in |
| Connector Type: | Strip line                         |
| Mounting:       | Φ2mm depth 3mm<br>M2               |

[1] Exclude connectors

### How To Order

#### **NDC1313M-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC1313M series Circulator, 2400~2500MHz, 100W, specify NDC1313M-2400-2500-K1.

Customization is available upon request.



## NDC1313T

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

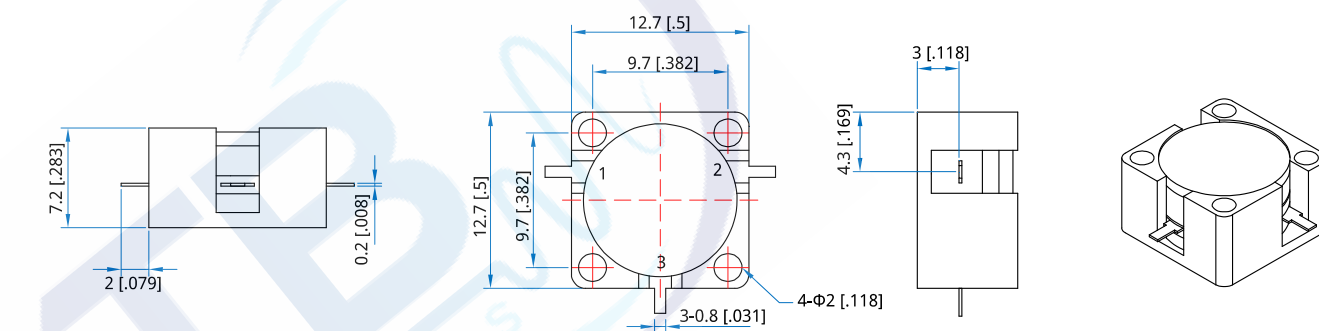
#### Description

NDC1313T series Drop-In Circulators cover frequency range 1.2~6GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 1710~1785          | 75                 | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 1805~1880          | 75                 | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 1805~1920          | 115                | 0.40                        | 20.0                   | 1.25           | 60~100               | -30~+70             |
| 1880~1920          | 40                 | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2110~2170          | 60                 | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2300~2400          | 100                | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2400~2500          | 100                | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2500~2700          | 200                | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2700~2900          | 200                | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 2900~3100          | 200                | 0.30                        | 23.0                   | 1.20           | 60~100               | -30~+70             |
| 3000~5000          | 200                | 0.35                        | 20.0                   | 1.25           | 60~100               | -30~+70             |
| 3250~3450          | 200                | 0.35                        | 20.0                   | 1.25           | 60~100               | -30~+70             |
| 3300~3500          | 200                | 0.35                        | 20.0                   | 1.25           | 60~100               | -30~+70             |
| 3500~3650          | 150                | 0.35                        | 20.0                   | 1.25           | 60~100               | -30~+70             |
| 5100~5900          | 800                | 0.45                        | 18.0                   | 1.30           | 60~100               | -30~+70             |
| 5700~5900          | 200                | 0.40                        | 20.0                   | 1.25           | 60~100               | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]



## Drop-In Circulators

### Mechanical

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|                      |                                    |
|----------------------|------------------------------------|
| Size* <sup>1</sup> : | 12.7*12.7*7.2mm<br>0.5*0.5*0.283in |
| Connector Type:      | Strip line                         |
| Mounting:            | 4-Φ2mm through-hole                |

[1] Exclude connectors

### How To Order

#### **NDC1313T-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC1313T series Circulator, 1447~1467MHz, 60W, specify NDC1313T-1447-1467-60.

Customization is available upon request.

## NDC1313TB

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

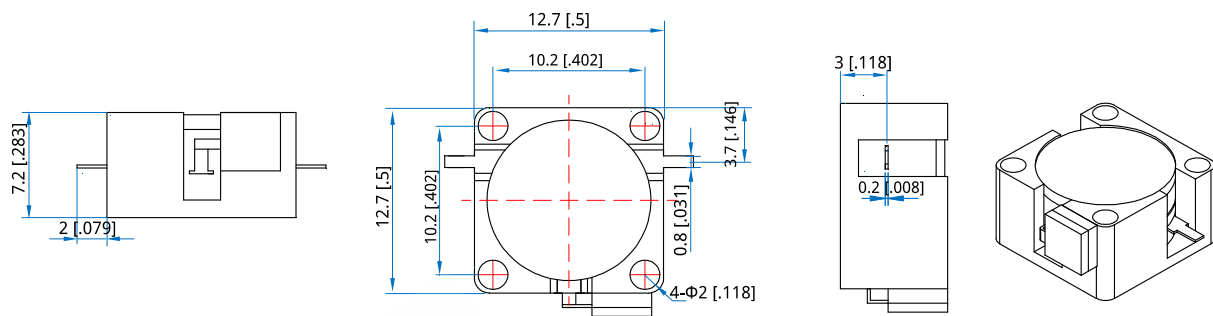
#### Description

NDC1313TB series Drop-In Circulators cover frequency range 2.11~2.17GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 2110~2170          | 60                 | 0.30                        | 20.0                   | 1.25           | 50                   | -40~+125            |

#### Outline Drawings



Unit: mm [inch]

Tolerance: ±0.2mm [±0.008in]

#### Mechanical

Size\*1: 12.7\*12.7\*7.2mm

0.5\*0.5\*0.283in

Connector Type: Strip line

Mounting: 4-Φ2mm through-hole

[1] Exclude connectors

#### Direction Naming Rules:

- 1 - Clockwise
- 2 - Anticlockwise

#### How To Order

**NDC1313TB-W-X-Y-Z**

W: Start frequency in MHz

X: Stop frequency in MHz

Y: Average Power in W

Z: Direction type

#### Examples:

To order a NDC1313TB series Circulator, 2110~2170MHz, 50W, Clockwise, specify NDC1313TB-2110-2170-50-1.

Customization is available upon request.

## NDC1319C

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

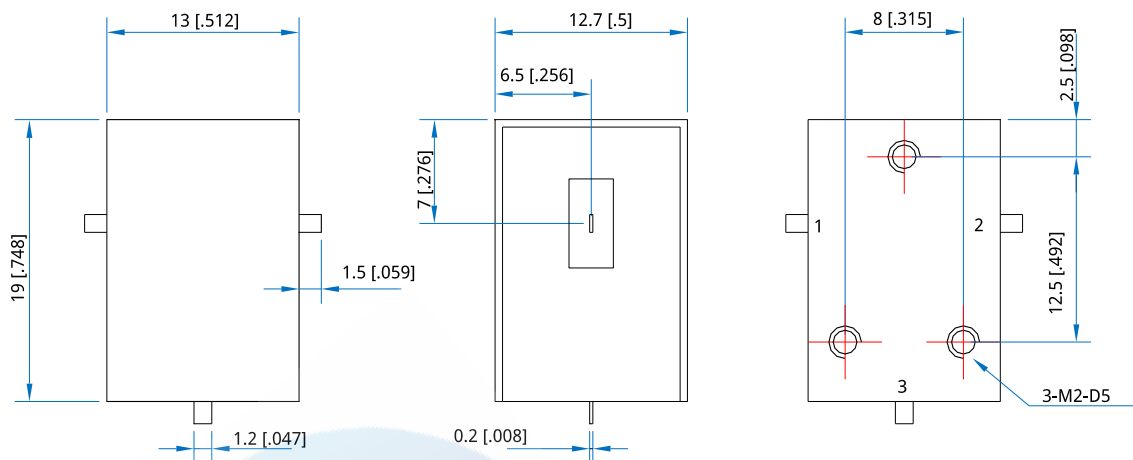
#### Description

NDC1319C series Drop-In Circulators cover frequency range 6~12GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 8000~12000         | 4000               | 0.50                        | 18.0                   | 1.30           | 50                   | 0~+60               |

#### Outline Drawings



Unit: mm [inch]      Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

#### Mechanical

Size<sup>\*1</sup>: 13\*19\*12.7mm  
0.512\*0.748\*0.5in  
Connector Type: Strip line  
Mounting: 3-M2, depth 5mm

[1] Exclude connectors

#### How To Order

**NDC1319C-X-Y-Z**  
X: Start frequency in MHz  
Y: Stop frequency in MHz  
Z: Average Power in W

#### Examples:

To order a NDC1319C series Circulator, 6~10GHz, 50W, specify NDC1319C-6000-10000-50.

Customization is available upon request.

## NDC1620B

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

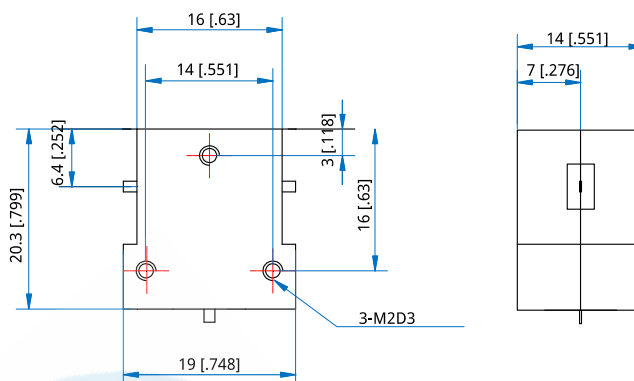
#### Description

NDC1620B series Drop-In Circulators cover frequency range 6~18GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 6000~18000         | 12000              | 1.5                         | 10                     | 1.9            | 20                   | -30~+70             |
| 13500~16500        | 3000               | 0.6                         | 18                     | 1.3            | 30                   | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

#### Mechanical

Size\*1: 16\*20.3\*14mm  
0.63\*0.799\*0.551in  
Connector Type: Strip line  
Mounting: 3-M2mm deep 3 mm

[1] Exclude connectors

#### Direction Naming Rules:

- 1 - Clockwise
- 2 - Anticlockwise

#### How To Order

##### NDC1620B-W-X-Y-Z

W: Start frequency in MHz

X: Stop frequency in MHz

Y: Average Power in W

Z: Direction type

Examples:

To order a NDC1620B series Circulator, 6~18GHz, 20W, Clockwise, specify NDC1620B-6000-18000-20-1.

Customization is available upon request.

## NDC1623D

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

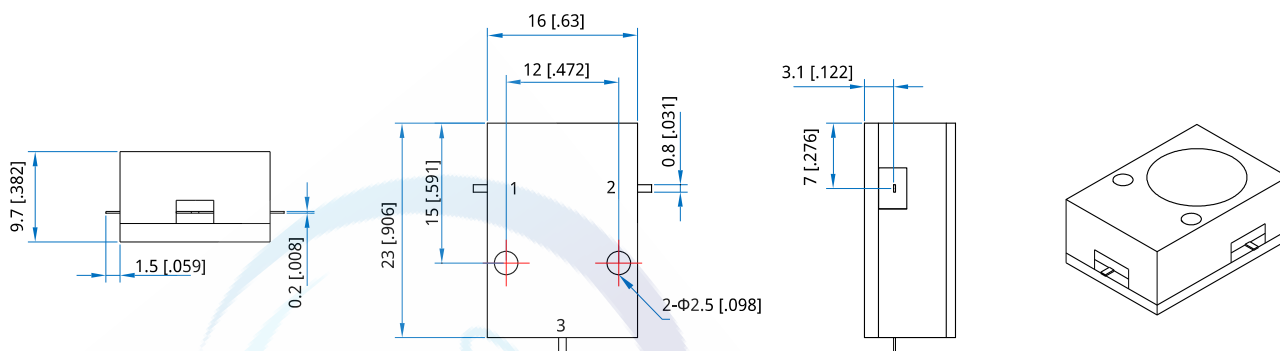
#### Description

NDC1623D series Drop-In Circulators cover frequency range 5~6.5GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 5100~5900          | 800                | 0.50                        | 18.0                   | 1.30           | 10~50                | -30~+70             |
| 5150~5500          | 350                | 0.40                        | 20.0                   | 1.25           | 10~50                | -30~+70             |
| 5230~5340          | 110                | 0.30                        | 23.0                   | 1.20           | 10~50                | -30~+70             |
| 5400~5900          | 500                | 0.40                        | 20.0                   | 1.25           | 10~50                | -30~+70             |
| 5700~5900          | 200                | 0.30                        | 23.0                   | 1.20           | 10~50                | -30~+70             |
| 5780~6000          | 220                | 0.30                        | 23.0                   | 1.25           | 10~50                | -30~+70             |
| 5800~6500          | 700                | 0.40                        | 20.0                   | 1.25           | 10~50                | -30~+70             |
| 6500~7000          | 500                | 0.40                        | 20.0                   | 1.25           | 10~50                | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

#### Mechanical

Size\*1: 16\*23\*9.7mm

0.63\*0.906\*0.382in

Connector Type: Strip line

Mounting: 2-Φ2.5mm through-hole

[1] Exclude connectors

#### How To Order

**NDC1623D-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC623D series Circulator, 5.1~5.9GHz, 50W, specify NDC1623D-5100-5900-50.

Customization is available upon request.

## NDC1822D

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

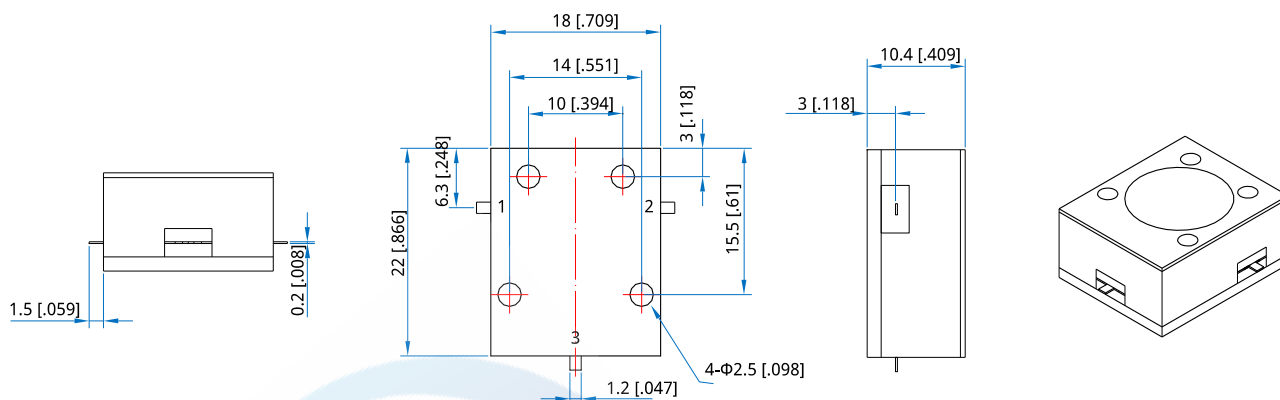
#### Description

**NDC1822D series Drop-In Circulators cover frequency range 4~5GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.**

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 4000~5000          | 1000               | 0.40                        | 18.0                   | 1.35           | 60                   | -30~+70             |
| 4350~5000          | 650                | 0.40                        | 23.0                   | 1.20           | 60                   | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance: ±0.2mm [±0.008in]

#### Mechanical

Size<sup>\*1</sup>: 18\*22\*10.4mm

0.709\*0.866\*0.409in

Connector Type: Strip line

Mounting: 4-Φ2.5mm through-hole

[1] Exclude connectors

#### How To Order

**NDC1822D-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC1822D series Circulator, 4~5GHz, 60W, specify NDC1822D-4000-5000-60.

Customization is available upon request.



## NDC1919X

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

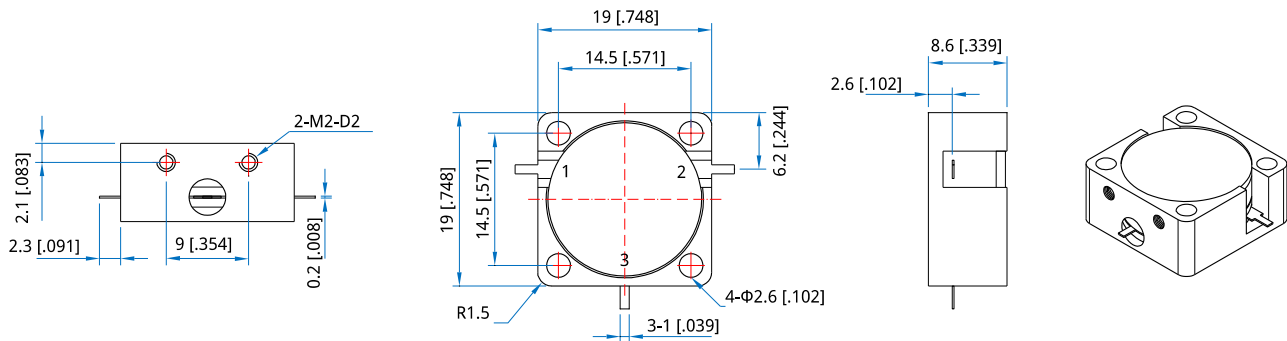
- \* Wireless
- \* Radar
- \* Laboratory Test

#### Description

NDC1919X series Drop-In Circulators cover frequency range 800~4300MHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 800~1000           | 20                 | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 865~880            | 15                 | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 925~960            | 35                 | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 1000~1700          | 60                 | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 1000~1700          | 200                | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 1030~1090          | 60                 | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 1000~1200          | 200                | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 1100~1300          | 200                | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 1325~1375          | 50                 | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 1500~1700          | 200                | 0.40                        | 20.0                   | 1.20           | 100                  | -30~+70             |
| 1700~3000          | 75                 | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 1700~3000          | 200                | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 1700~1900          | 200                | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 1710~1785          | 75                 | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 1805~1880          | 75                 | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 1920~1980          | 60                 | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 2110~2170          | 60                 | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 2000~2200          | 200                | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 2100~2700          | 600                | 0.50                        | 18.0                   | 1.35           | 100                  | -30~+70             |
| 2200~2400          | 200                | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 2300~2500          | 200                | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 2300~2700          | 400                | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 2700~3100          | 400                | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 3100~3400          | 300                | 0.40                        | 20.0                   | 1.25           | 100                  | -30~+70             |
| 3400~3600          | 200                | 0.30                        | 23.0                   | 1.20           | 100                  | -30~+70             |
| 3400~4300          | 900                | 0.50                        | 20.0                   | 1.25           | 100                  | -30~+70             |



Unit: mm [inch]      Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

## Mechanical

|                      |                                          |
|----------------------|------------------------------------------|
| Size* <sup>1</sup> : | 19*19*8.6mm<br>0.748*0.748*0.339in       |
| Connector Type:      | Strip line                               |
| Mounting:            | 4-Φ2.6mm through-hole<br>2-M2, depth 2mm |

[1] Exclude connectors

## How To Order

### NDC1919X-X-Y-Z

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

### Examples:

To order a NDC1919X series Circulator, 925~960MHz, 100W, specify NDC1919X-925-960-K1.

Customization is available upon request.

## NDC2020X

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

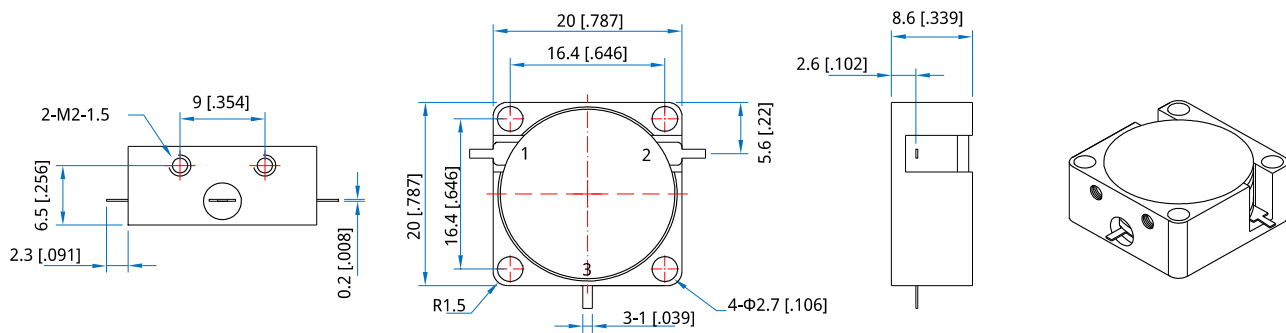
- \* Wireless
- \* Radar
- \* Laboratory Test

#### Description

NDC2020X series Drop-In Circulators cover frequency range 600~4000MHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W Max.) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|---------------------------|---------------------|
| 600~800            | 20                 | 0.40                        | 23.0                   | 1.20           | 100                       | -30~+70             |
| 600~800            | 50                 | 0.40                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 700~1300           | 30                 | 0.25                        | 25.0                   | 1.15           | 100                       | -30~+70             |
| 700~1300           | 100                | 0.40                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 825~875            | 50                 | 0.40                        | 20.0                   | 1.20           | 100                       | -30~+70             |
| 869~894            | 25                 | 0.25                        | 25.0                   | 1.20           | 100                       | -30~+70             |
| 885~915            | 30                 | 0.25                        | 25.0                   | 1.20           | 100                       | -30~+70             |
| 850~960            | 110                | 0.40                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 920~960            | 40                 | 0.25                        | 25.0                   | 1.20           | 100                       | -30~+70             |
| 1030~1090          | 60                 | 0.30                        | 23.0                   | 1.20           | 100                       | -30~+70             |
| 1300~3000          | 75                 | 0.25                        | 25.0                   | 1.15           | 100                       | -30~+70             |
| 1300~3000          | 100                | 0.30                        | 23.0                   | 1.20           | 100                       | -30~+70             |
| 1300~3000          | 200                | 0.40                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 1500~1700          | 200                | 0.40                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 1700~1900          | 200                | 0.40                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 1900~2200          | 300                | 0.40                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 2100~2700          | 600                | 0.50                        | 18.0                   | 1.35           | 100                       | -30~+70             |
| 2300~2700          | 400                | 0.40                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 2400~2500          | 100                | 0.25                        | 25.0                   | 1.15           | 100                       | -30~+70             |
| 2500~2700          | 200                | 0.30                        | 23.0                   | 1.20           | 100                       | -30~+70             |
| 3000~4000          | 200                | 0.30                        | 23.0                   | 1.20           | 100                       | -30~+70             |
| 3000~4000          | 400                | 0.40                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 3200~3900          | 700                | 0.40                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 3300~3600          | 300                | 0.40                        | 23.0                   | 1.20           | 100                       | -30~+70             |
| 3400~4300          | 900                | 0.50                        | 20.0                   | 1.25           | 100                       | -30~+70             |
| 3600~3800          | 200                | 0.30                        | 23.0                   | 1.20           | 100                       | -30~+70             |



Unit: mm [inch]      Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

## Mechanical

|                 |                       |
|-----------------|-----------------------|
| Size*1:         | 20*20*8.6mm           |
|                 | 0.787*0.787*0.339in   |
| Connector Type: | Strip line            |
| Mounting:       | 4-Φ2.7mm through-hole |
|                 | 2-M2, depth 1.5mm     |

[1] Exclude connectors

## How To Order

**NDC2020X-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

Examples:

To order a NDC2020X series Circulator, 1805~1880MHz, 100W, specify NDC2020X-1805-1880-K1.

Customization is available upon request.

## NDC2123B

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

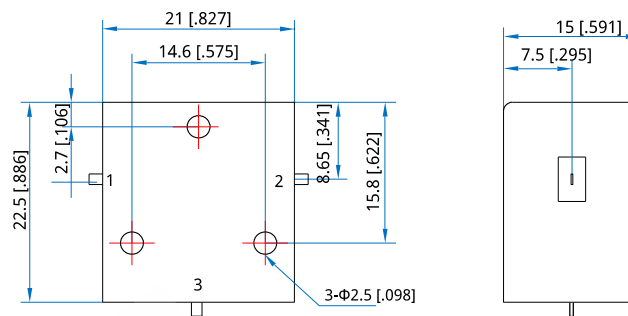
#### Description

NDC2123B series Drop-In Circulators cover frequency range 4~8GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 4000~8000          | 4000               | 0.60                        | 18.0                   | 1.35           | 60                   | 0~+60               |

#### Outline Drawings



Unit: mm [inch]      Tolerance: ±0.2mm [±0.008in]

#### Mechanical

Size\*1: 21\*22.5\*15mm  
0.827\*0.886\*0.591in

Connector Type: Strip line

Mounting: 3-Φ2.5mm through-hole

[1] Exclude connectors

#### How To Order

**NDC2123B-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC2123B series Circulator, 4~8GHz, 60W, specify NDC2123B-4000-8000-60.

Customization is available upon request.

## NDC2525X

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

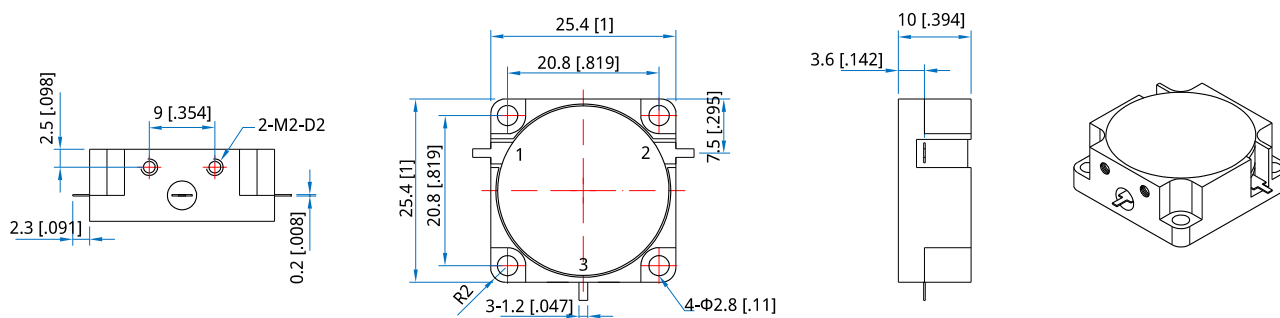
- \* Wireless
- \* Radar
- \* Laboratory Test

#### Description

NDC2525X series Drop-In Circulators cover frequency range 350~4000MHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 350~400            | 20                 | 0.50                        | 20.0                   | 1.25           | 100~250              | -30~+70             |
| 400~800            | 20                 | 0.40                        | 23.0                   | 1.25           | 100~250              | -30~+70             |
| 400~800            | 70                 | 0.40                        | 20.0                   | 1.20           | 100~250              | -30~+70             |
| 700~1300           | 30                 | 0.25                        | 25.0                   | 1.15           | 100~250              | -30~+70             |
| 700~1300           | 100                | 0.40                        | 20.0                   | 1.25           | 100~250              | -30~+70             |
| 746~870            | 124                | 0.40                        | 20.0                   | 1.20           | 100~250              | -30~+70             |
| 869~894            | 25                 | 0.25                        | 25.0                   | 1.20           | 100~250              | -30~+70             |
| 885~915            | 30                 | 0.25                        | 25.0                   | 1.20           | 100~250              | -30~+70             |
| 850~960            | 110                | 0.40                        | 20.0                   | 1.25           | 100~250              | -30~+70             |
| 920~960            | 40                 | 0.25                        | 25.0                   | 1.20           | 100~250              | -30~+70             |
| 960~1215           | 255                | 0.40                        | 20.0                   | 1.25           | 100~250              | -30~+70             |
| 1030~1090          | 60                 | 0.30                        | 23.0                   | 1.20           | 100~250              | -30~+70             |
| 1300~3000          | 75                 | 0.25                        | 25.0                   | 1.15           | 100~250              | -30~+70             |
| 1300~3000          | 100                | 0.30                        | 23.0                   | 1.20           | 100~250              | -30~+70             |
| 1300~3000          | 200                | 0.40                        | 20.0                   | 1.25           | 100~250              | -30~+70             |
| 1300~1800          | 500                | 0.40                        | 16.0                   | 1.40           | 100~250              | -30~+70             |
| 1500~1700          | 200                | 0.40                        | 20.0                   | 1.25           | 100~250              | -30~+70             |
| 1700~1900          | 200                | 0.40                        | 20.0                   | 1.25           | 100~250              | -30~+70             |
| 1880~2650          | 770                | 0.65                        | 15.0                   | 1.45           | 100~250              | -30~+70             |
| 1900~2200          | 300                | 0.40                        | 20.0                   | 1.25           | 100~250              | -30~+70             |
| 2100~2700          | 600                | 0.50                        | 18.0                   | 1.35           | 100~250              | -30~+70             |
| 2300~2700          | 400                | 0.40                        | 20.0                   | 1.25           | 100~250              | -30~+70             |
| 2400~2500          | 100                | 0.25                        | 25.0                   | 1.15           | 100~250              | -30~+70             |
| 3000~4000          | 200                | 0.30                        | 23.0                   | 1.20           | 100~250              | -30~+70             |
| 3000~4000          | 400                | 0.40                        | 20.0                   | 1.25           | 100~250              | -30~+70             |
| 3400~3600          | 200                | 0.30                        | 23.0                   | 1.20           | 100~250              | -30~+70             |
| 3600~3800          | 200                | 0.30                        | 23.0                   | 1.20           | 100~250              | -30~+70             |



Unit: mm [inch]      Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

## Mechanical

|                 |                                                        |
|-----------------|--------------------------------------------------------|
| Size*1:         | 25.4*25.4*10mm<br>1*1*0.394in                          |
| Connector Type: | Strip line                                             |
| Mounting:       | 4- $\Phi 2.8\text{mm}$ through-hole<br>2-M2, depth 2mm |

[1] Exclude connectors

## How To Order

**NDC2525X-X-Y-Z**  
X: Start frequency in MHz  
Y: Stop frequency in MHz  
Z: Average Power in W

Examples:

To order a NDC2525X series Circulator, 350~370MHz, 100W,  
specify NDC2525X-350-370-K1.

Customization is available upon request.

## NDC2528C

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

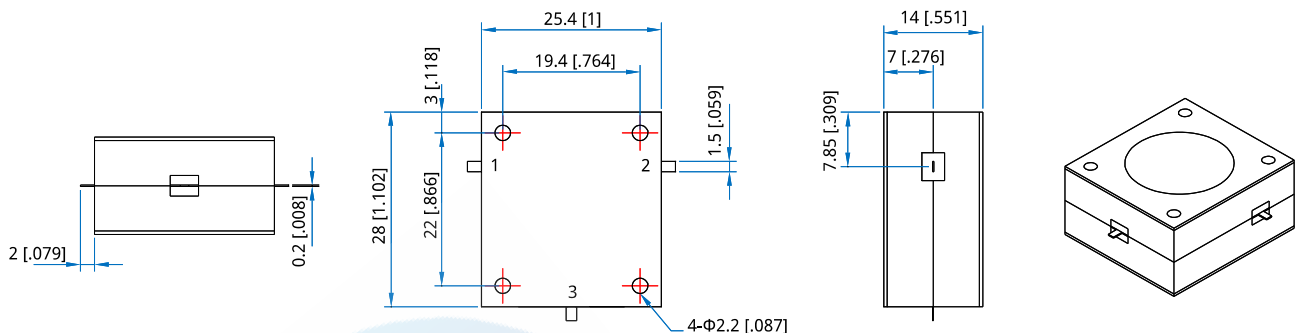
#### Description

NDC2528C series Drop-In Circulators cover frequency range 2.7~6GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 2700~6200          | 3500               | 0.80                        | 16.0                   | 1.40           | 10~200               | -30~+70             |
| 3000~6000          | 3000               | 0.60                        | 18.0                   | 1.35           | 10~200               | -30~+70             |
| 3000~6000          | 500                | 0.40                        | 20.0                   | 1.25           | 10~200               | -30~+70             |
| 5000~6000          | 1000               | 0.30                        | 23.0                   | 1.20           | 10~200               | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

#### Mechanical

Size\*1: 25.4\*28\*14mm

1\*1.102\*0.551in

Connector Type: Strip line

Mounting: 4-Φ2.2mm through-hole

[1] Exclude connectors

#### How To Order

**NDC2528C-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC2528C series Circulator, 2600~6000MHz, 60W, specify NDC2528C-2600-6000-60.

Customization is available upon request.



## NDC3030B

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

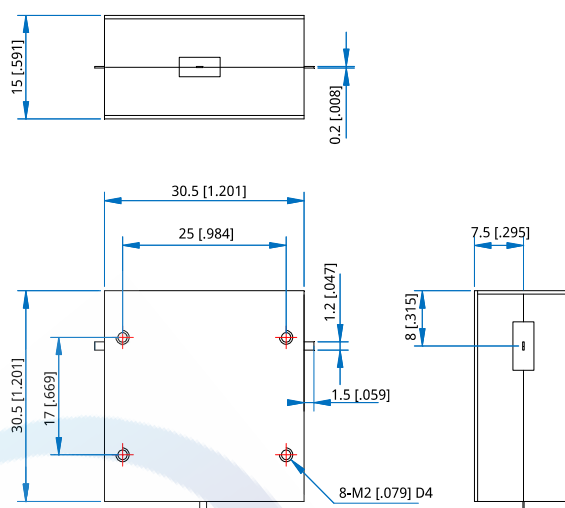
#### Description

NDC3030B series Drop-In Circulators cover frequency range 2~6GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 2000~6000          | 4000               | 1.7                         | 12                     | 1.6            | 20                   | -40~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

#### Mechanical

Size<sup>\*1</sup>: 30.5\*30.5\*15mm  
1.201\*1.201\*0.591in  
Connector Type: Strip line  
Mounting: 8-M2mm deep 4 mm

[1] Exclude connectors

#### Direction Naming Rules:

- 1 - Clockwise
- 2 - Anticlockwise

#### How To Order

##### NDC3030B-W-X-Y-Z

W: Start frequency in MHz

X: Stop frequency in MHz

Y: Average Power in W

Z: Direction type

#### Examples:

To order a NDC3030B series Circulator, 2~6GHz, 20W, Clockwise, specify NDC3030B-2000-6000-20-1.

Customization is available upon request.

## NDC3234A

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

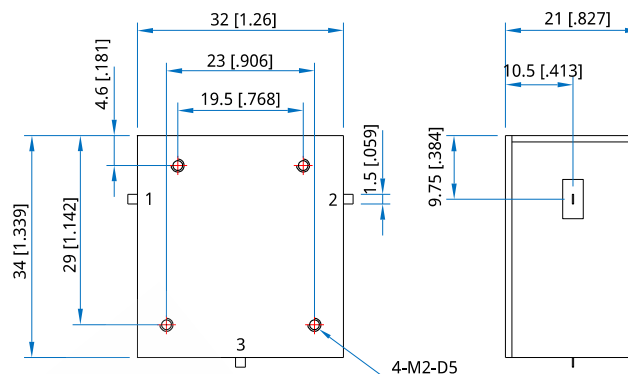
#### Description

NDC3234A series Drop-In Circulators cover frequency range 2~4GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 2000~4000          | 2000               | 0.60                        | 16.0                   | 1.35           | 10~100               | 0~+60               |

#### Outline Drawings



Unit: mm [inch] Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

#### Mechanical

Size\*1: 32\*34\*21mm  
1.26\*1.339\*0.827in

Connector Type: Strip line

Mounting: 4-M2, depth 5mm

[1] Exclude connectors

#### How To Order

**NDC3234A-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC3234A series Circulator, 2000~4000MHz, 100W, specify NDC3234A-2000-4000-K1.

Customization is available upon request.

## NDC3538X

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

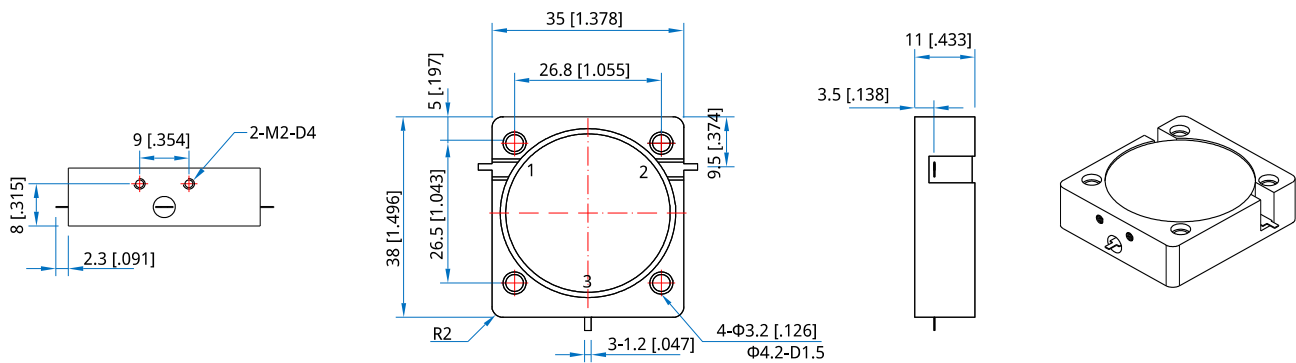
- \* Wireless
- \* Radar
- \* Laboratory Test

#### Description

NDC3538X series Drop-In Circulators cover frequency range 300~1850MHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 300~350            | 50                 | 0.70                        | 18.0                   | 1.35           | 100~300              | -30~+70             |
| 300~400            | 20                 | 0.40                        | 20.0                   | 1.25           | 100~300              | -30~+70             |
| 350~370            | 20                 | 0.40                        | 23.0                   | 1.20           | 100~300              | -30~+70             |
| 361~366            | 5                  | 0.40                        | 23.0                   | 1.20           | 100~300              | -30~+70             |
| 400~470            | 70                 | 0.40                        | 20.0                   | 1.25           | 100~300              | -30~+70             |
| 400~600            | 20                 | 0.30                        | 23.0                   | 1.20           | 100~300              | -30~+70             |
| 400~600            | 50                 | 0.40                        | 20.0                   | 1.25           | 100~300              | -30~+70             |
| 470~570            | 100                | 0.40                        | 20.0                   | 1.25           | 100~300              | -30~+70             |
| 500~700            | 200                | 0.70                        | 18.0                   | 1.30           | 100~300              | -30~+70             |
| 600~800            | 30                 | 0.25                        | 25.0                   | 1.15           | 100~300              | -30~+70             |
| 600~800            | 100                | 0.30                        | 23.0                   | 1.20           | 100~300              | -30~+70             |
| 600~800            | 200                | 0.45                        | 19.0                   | 1.25           | 100~300              | -30~+70             |
| 700~1000           | 30                 | 0.25                        | 25                     | 1.15           | 100~300              | -30~+70             |
| 700~1000           | 100                | 0.30                        | 23.0                   | 1.20           | 100~300              | -30~+70             |
| 700~1000           | 200                | 0.50                        | 18.0                   | 1.30           | 100~300              | -30~+70             |
| 950~1450           | 500                | 0.60                        | 18.0                   | 1.30           | 100~300              | -30~+70             |
| 960~1215           | 255                | 0.30                        | 21.0                   | 1.20           | 100~300              | -30~+70             |
| 960~1260           | 300                | 0.45                        | 20.0                   | 1.25           | 100~300              | -30~+70             |
| 1000~1500          | 500                | 0.60                        | 18.0                   | 1.30           | 100~300              | -30~+70             |
| 1020~1040          | 20                 | 0.25                        | 25.0                   | 1.15           | 100~300              | -30~+70             |
| 1160~1610          | 450                | 0.50                        | 20.0                   | 1.25           | 100~300              | -30~+70             |
| 1290~1310          | 20                 | 0.25                        | 25.0                   | 1.15           | 100~300              | -30~+70             |
| 1350~1850          | 500                | 0.50                        | 20.0                   | 1.25           | 100~300              | -30~+70             |



Unit: mm [inch] Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

## Mechanical

|                      |                                                                              |
|----------------------|------------------------------------------------------------------------------|
| Size <sup>*1</sup> : | 35*35*11mm<br>1.378*1.378*0.433in                                            |
| Connector Type:      | Strip line                                                                   |
| Mounting:            | 4- $\Phi$ 3.2mm through-hole<br>$\Phi$ 3.2mm, depth 1.5mm<br>2-M2, depth 4mm |

[1] Exclude connectors

## How To Order

**NDC3538X-X-Y-Z**  
X: Start frequency in MHz  
Y: Stop frequency in MHz  
Z: Average Power in W

### Examples:

To order a NDC3538X series Circulator, 300~350MHz, 100W, specify NDC3538X-300-350-K1.

Customization is available upon request.

## NDC3838X

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

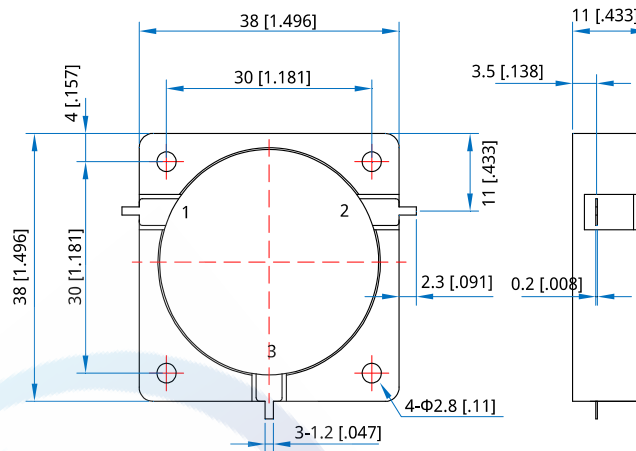
#### Description

NDC3838X series Drop-In Circulators cover frequency range 350~1850MHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W Max.) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|---------------------------|---------------------|
| 470~570            | 100                | 0.40                        | 20.0                   | 1.25           | 300                       | -30~+70             |
| 600~702            | 102                | 0.30                        | 23.0                   | 1.20           | 300                       | -30~+70             |
| 700~806            | 106                | 0.30                        | 23.0                   | 1.20           | 300                       | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

#### Mechanical

Size<sup>\*1</sup>: 38\*38\*11mm  
1.496\*1.496\*0.433in

Connector Type: Strip line

Mounting: 4- $\Phi 2.8\text{mm}$  through-hole

[1] Exclude connectors

#### How To Order

**NDC3838X-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC3838X series Circulator, 600~702MHz, 300W, specify NDC3838X-600-702-K3.

Customization is available upon request.

## NDC4040A

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

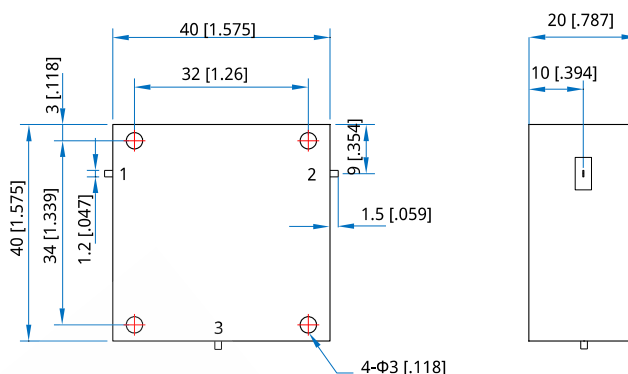
#### Description

NDC4040A series Drop-In Circulators cover frequency range 1.7~3GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 1700~2700          | 1000               | 0.70                        | 16.0                   | 1.35           | 100~200              | 0~+60               |
| 1800~3000          | 1200               | 0.50                        | 17.0                   | 1.35           | 100~200              | 0~+60               |

#### Outline Drawings



Unit: mm [inch]

Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

#### Mechanical

Size\*1: 40\*40\*20mm  
1.575\*1.575\*0.787in  
Connector Type: Strip line  
Mounting: 4-Φ3mm through-hole

[1] Exclude connectors

#### How To Order

**NDC4040A-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC4040A series Circulator, 1700~2700MHz, 100W, specify NDC4040A-1700-2700-K1

Customization is available upon request.

## NDC4545X

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

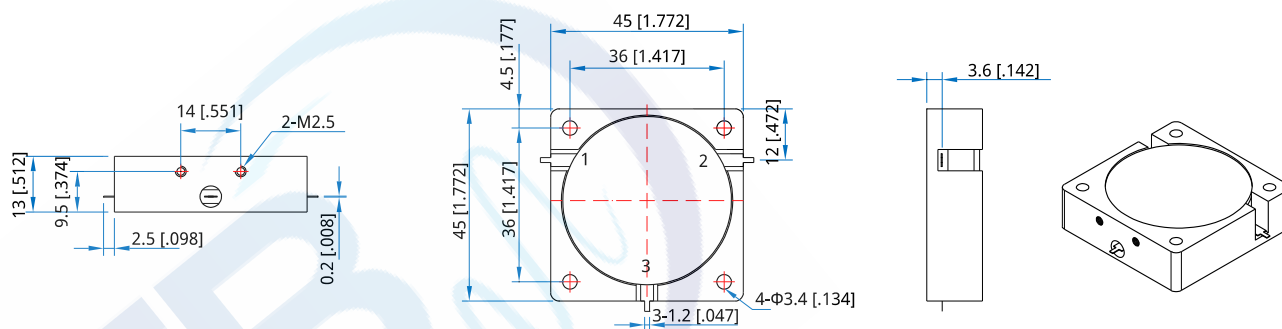
#### Description

NDC4545X series Drop-In Circulators cover frequency range 300~1000MHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 300~420            | 20                 | 0.30                        | 23.0                   | 1.20           | 100~400              | -30~+70             |
| 300~420            | 30                 | 0.40                        | 20.0                   | 1.25           | 100~400              | -30~+70             |
| 300~420            | 120                | 0.60                        | 18.0                   | 1.30           | 100~400              | -30~+70             |
| 361~366            | 5                  | 0.20                        | 30.0                   | 1.15           | 100~400              | -30~+70             |
| 400~470            | 70                 | 0.40                        | 20.0                   | 1.25           | 100~400              | -30~+70             |
| 400~500            | 30                 | 0.30                        | 23.0                   | 1.20           | 100~400              | -30~+70             |
| 400~500            | 100                | 0.40                        | 20.0                   | 1.25           | 100~400              | -30~+70             |
| 500~700            | 50                 | 0.40                        | 20.0                   | 1.25           | 100~400              | -30~+70             |
| 500~700            | 150                | 0.50                        | 18.0                   | 1.30           | 100~400              | -30~+70             |
| 700~900            | 200                | 0.40                        | 20.0                   | 1.25           | 100~400              | -30~+70             |
| 700~1000           | 300                | 0.50                        | 18.0                   | 1.30           | 100~400              | -30~+70             |
| 800~1000           | 200                | 0.40                        | 20.0                   | 1.20           | 100~400              | -30~+70             |
| 800~1100           | 300                | 0.50                        | 18.0                   | 1.30           | 100~400              | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance: ±0.2mm [±0.008in]

### How To Order

**NDC4545X-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

Size\*1: 45\*45\*13mm  
1.772\*1.772\*0.512in  
Connector Type: Strip line  
Mounting: 4-Φ3.4mm through-hole  
2-M2.5

[1] Exclude connectors

Examples:

To order a NDC4545X series Circulator, 320~330MHz, 200W,  
specify NDC4545X-320-330-K2.

Customization is available upon request.



## NDC5050A

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

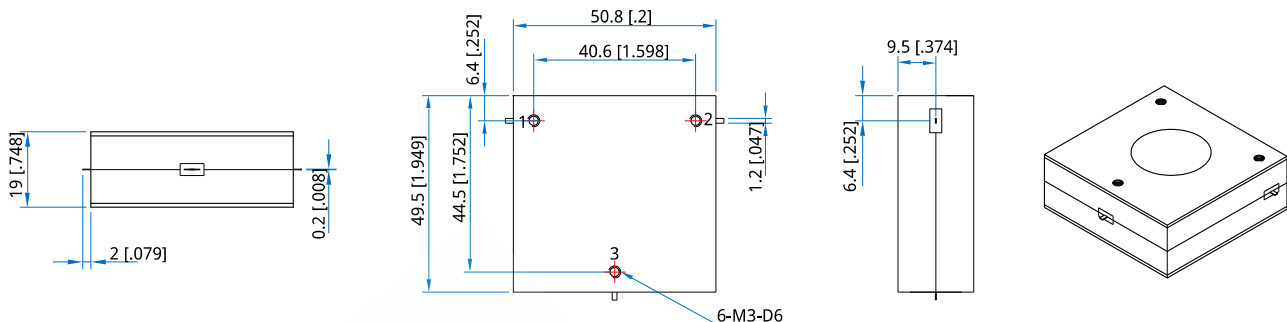
#### Description

NDC5050A series Drop-In Circulators cover frequency range 1.5~3GHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 1500~3000          | 1500               | 0.7                         | 17                     | 1.4            | 10~100               | 0~+60               |
| 1700~2500          | 800                | 0.5                         | 18                     | 1.3            | 100                  | -30~+85             |

#### Outline Drawings



Unit: mm [inch] Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

#### Mechanical

Size\*1: 50.8\*49.5\*19mm  
2\*1.949\*0.748in  
Connector Type: Strip line  
Mounting: 6-M3, depth 6mm

[1] Exclude connectors

#### How To Order

**NDC5050A-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC5050A series Circulator, 1300~2600MHz, 100W, specify NDC5050A-1300-2600-K1.

Customization is available upon request.

## NDC5050X

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

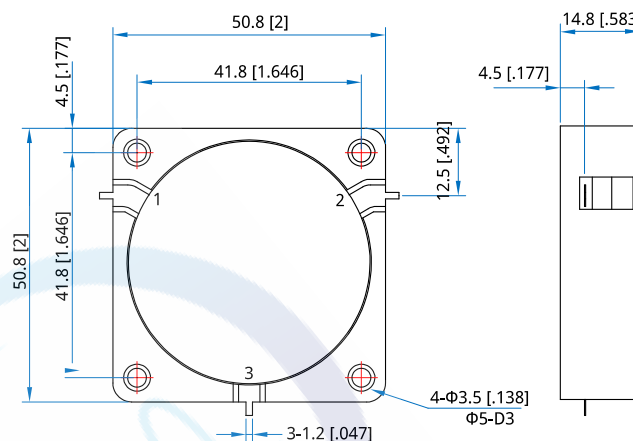
#### Description

NDC5050X series Drop-In Circulators cover frequency range 150~330MHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 150~200            | 10                 | 0.70                        | 18.0                   | 1.30           | 100~400              | -30~+70             |
| 192~232            | 40                 | 0.60                        | 18.0                   | 1.30           | 100~400              | -30~+70             |
| 200~220            | 20                 | 0.40                        | 20.0                   | 1.25           | 100~400              | -30~+70             |
| 220~240            | 20                 | 0.40                        | 20.0                   | 1.25           | 100~400              | -30~+70             |
| 260~330            | 10                 | 0.20                        | 23.0                   | 1.20           | 100~400              | -30~+70             |
| 260~330            | 70                 | 0.40                        | 20.0                   | 1.25           | 100~400              | -30~+70             |

#### Outline Drawings



Unit: mm [inch]

Tolerance: ±0.2mm [±0.008in]

#### Mechanical

Size\*1: 50.8\*50.8\*14.8mm  
2\*2\*0.583in

Connector Type: Strip line

Mounting: 4-Φ3.5mm through-hole  
Φ5, depth 3mm

[1] Exclude connectors

Customization is available upon request.

#### How To Order

**NDC5050X-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

Examples:

To order a NDC5050X series Circulator, 160~166MHz, 200W, specify NDC5050X-160-166-K2.

# NDC6060H

## High Power, High Isolation

### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

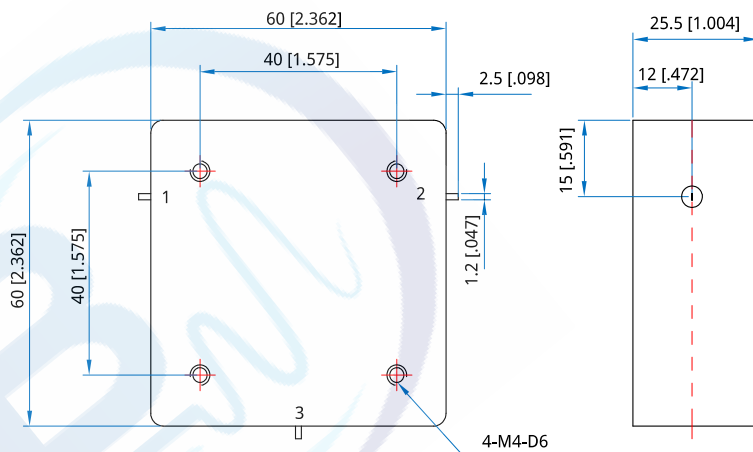
### Description

NDC6060H series Drop-In Circulators cover frequency range 20~400MHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

## Specifications

| Frequency | Bandwidth | Insertion Loss | Isolation | VSWR   | Average Power | Temperature |
|-----------|-----------|----------------|-----------|--------|---------------|-------------|
| (MHz)     | (MHz)     | (dB Max.)      | (dB Min.) | (Max.) | (W)           | (°C)        |
| 20~30     | 0         | 2.00           | 18.0      | 1.30   | 10~100        | -10~+60     |
| 30~80     | 0         | 1.20           | 20.0      | 1.25   | 10~100        | -10~+60     |
| 30~80     | 5         | 1.80           | 18.0      | 1.30   | 10~100        | -10~+60     |
| 88~108    | 20        | 0.60           | 20.0      | 1.25   | 10~100        | -10~+60     |
| 100~140   | 40        | 1.20           | 18.0      | 1.30   | 10~100        | -10~+60     |
| 108~118   | 10        | 0.50           | 20.0      | 1.20   | 10~100        | -10~+60     |
| 116~138   | 22        | 0.60           | 20.0      | 1.25   | 10~100        | -10~+60     |
| 130~180   | 50        | 0.60           | 20.0      | 1.25   | 10~100        | -10~+60     |
| 136~174   | 38        | 0.50           | 20.0      | 1.25   | 10~100        | -10~+60     |
| 150~170   | 20        | 0.40           | 20.0      | 1.20   | 10~100        | -10~+60     |
| 170~230   | 60        | 0.60           | 20.0      | 1.25   | 10~100        | -10~+60     |
| 225~400   | 175       | 0.80           | 18.0      | 1.30   | 10~100        | -10~+60     |

## Outline Drawings



Unit: mm [inch]

Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]



## Drop-In Circulators

### Mechanical

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|                 |                                     |
|-----------------|-------------------------------------|
| Size*1:         | 60*60*25.5mm<br>2.362*2.362*1.004in |
| Connector Type: | Strip line                          |
| Mounting:       | 4-M4, depth 6mm                     |

[1] Exclude connectors

### How To Order

**NDC6060H-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

Examples:

To order a NDC6060H series Circulator, 70~75MHz, 50W, specify NDC6060H-70-75-50.

Customization is available upon request.

## NDC6466H

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

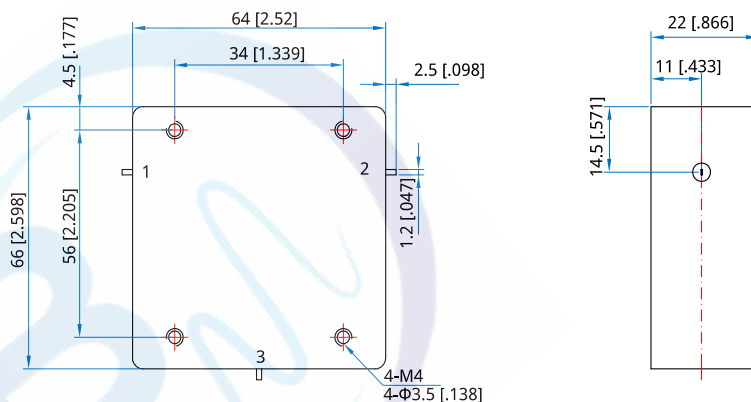
#### Description

NDC6466H series Drop-In Circulators cover frequency range 20~400MHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|----------------------|---------------------|
| 20~30              | 0                  | 2.00                        | 18.0                   | 1.30           | 10~100               | -10~+60             |
| 30~80              | 0                  | 1.20                        | 20.0                   | 1.25           | 10~100               | -10~+60             |
| 30~80              | 5                  | 1.80                        | 18.0                   | 1.30           | 10~100               | -10~+60             |
| 88~108             | 20                 | 0.60                        | 20.0                   | 1.25           | 10~100               | -10~+60             |
| 100~140            | 40                 | 1.20                        | 18.0                   | 1.30           | 10~100               | -10~+60             |
| 108~118            | 10                 | 0.50                        | 20.0                   | 1.20           | 10~100               | -10~+60             |
| 116~138            | 22                 | 0.60                        | 20.0                   | 1.25           | 10~100               | -10~+60             |
| 130~180            | 50                 | 0.60                        | 20.0                   | 1.25           | 10~100               | -10~+60             |
| 136~174            | 38                 | 0.50                        | 20.0                   | 1.25           | 10~100               | -10~+60             |
| 150~170            | 20                 | 0.40                        | 20.0                   | 1.20           | 10~100               | -10~+60             |
| 170~230            | 60                 | 0.60                        | 20.0                   | 1.25           | 10~100               | -10~+60             |
| 225~400            | 175                | 0.80                        | 18.0                   | 1.30           | 10~100               | -10~+60             |

#### Outline Drawings



Unit: mm [inch]

Tolerance: ±0.2mm [±0.008in]



## NDC6466H

### Mechanical

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|                 |                                  |
|-----------------|----------------------------------|
| Size*1:         | 64*66*22mm<br>2.25*2.598*0.866in |
| Connector Type: | Strip line                       |
| Mounting:       | 4-Φ3.5mm through-hole<br>4-M4    |

[1] Exclude connectors

### How To Order

#### **NDC6466H-X-Y-Z**

X: Start frequency in MHz

Y: Stop frequency in MHz

Z: Average Power in W

#### Examples:

To order a NDC6466H series Circulator, 55~75MHz, 100W, specify NDC6466H-55-75-K1.

Customization is available upon request.

## Drop-In Circulators

## NDC6466K

### High Power, High Isolation

#### Features:

- \* High Power
- \* High Isolation
- \* Low Insertion Loss
- \* Low VSWR

#### Applications:

- \* Wireless
- \* Radar
- \* Laboratory Test

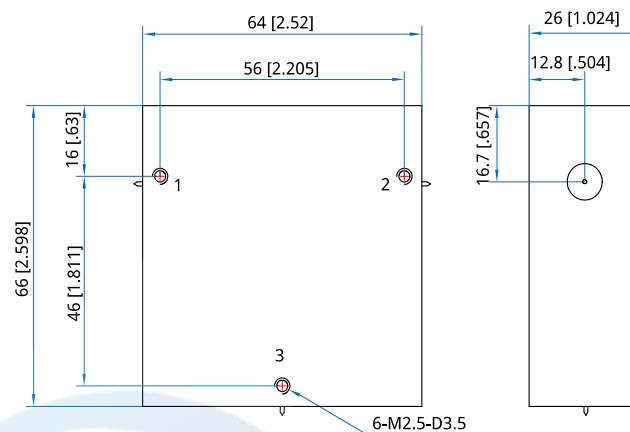
#### Description

NDC6466K series Drop-In Circulators cover frequency range 950~2000MHz. High power, high isolation and low insertion loss make it ideal for a lot of applications like amplifiers, transceivers, etc.

#### Specifications

| Frequency<br>(MHz) | Bandwidth<br>(MHz) | Insertion Loss<br>(dB Max.) | Isolation<br>(dB Min.) | VSWR<br>(Max.) | Average Power<br>(W Max.) | Temperature<br>(°C) |
|--------------------|--------------------|-----------------------------|------------------------|----------------|---------------------------|---------------------|
| 950~2000           | 1050               | 0.70                        | 16.0                   | 1.40           | 10~100                    | -10~+60             |
| 1000~2000          | 1000               | 0.60                        | 17.0                   | 1.40           | 10~100                    | -10~+60             |

#### Outline Drawings



Unit: mm [inch]      Tolerance:  $\pm 0.2\text{mm}$  [ $\pm 0.008\text{in}$ ]

#### Mechanical

Size\*1: 64\*66\*26mm  
2.25\*2.598\*1.024in  
Connector Type: Strip line  
Mounting: 6-M2.5, depth 3.5mm

[1] Exclude connectors

#### How To Order

**NDC6466K-X-Y-Z**  
X: Start frequency in MHz  
Y: Stop frequency in MHz  
Z: Average Power in W

#### Examples:

To order a NDC6466K series Circulator, 950~2000MHz, 100W, specify NDC6466K-950-2000-K1.

Customization is available upon request.