

NFA014K

DC~1GHz, 4000W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~1GHz
Attenuation:	20, 30, 40, 50dB
Impedance:	50Ω
Average Power:	4000W@25°C max.
Peak Power:	100KW (10μS pulse width)

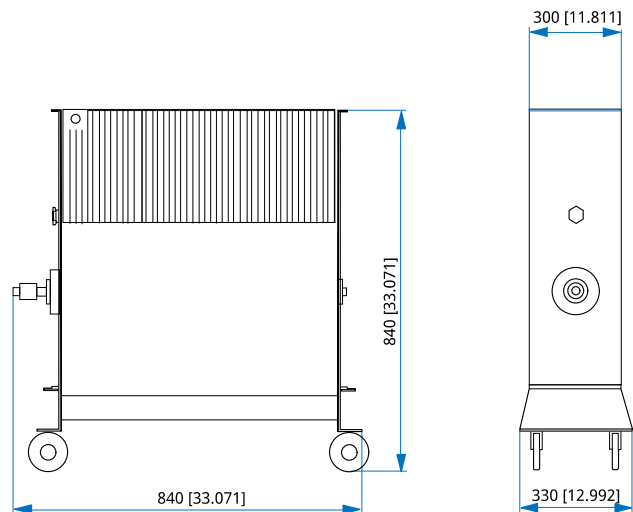
Mechanical

Size:	840*330*840mm 33.071*12.992*33.071in
RF Connectors:	7/16 DIN female N female
Housing:	Aluminum
Outer Conductor:	Nickel Plated Brass
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated phosphor copper
Cooling:	Oil cooling and air cooling

Environmental

Temperature:	-40~+45°C
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Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Expain:

Replace the hexagon nut with the exhaust valve before startup, and replace the exhaust valve with the hexagon nut during transportation.

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	20	30	40	50	
DC~0.5	/	±1.0	±1.0	±1.0	1.25,
0.5~1	/	/	/	/	1.40

How To Order

NFA014K-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

7F - 7/16 DIN female

NF - N DIN female

Examples:

To order an attenuator, DC~1GHz, 7/16 DIN female to N female, 30dB attenuation, specify NFA014K-1-30-7FNF.

NFA015K

DC~1GHz, 5000W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~1GHz
Attenuation:	20dB, 30dB, 40dB, 50dB
Impedance:	50Ω
Average Power:	5000W@25°C max.
Peak Power:	100KW (1μs pulse width, 5% duty cycle)

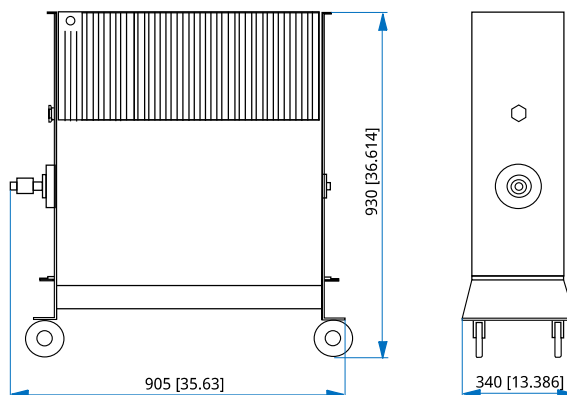
Mechanical

Size:	905*340*930mm 35.63*13.386*36.614in
Weight:	110Kg
RF Connectors:	7/16 DIN
Housing:	Aluminum
Outer Conductor:	Nickel Plated Brass
Male Inner Conductor:	Silver plated brass
Female Inner Conductor:	Silver plated silicon manganese copper
Cooling:	Oil cooling and air cooling

Environmental

Temperature:	-40~+45°C
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Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Expain:

Replace the hexagon nut with the exhaust valve before startup, and replace the exhaust valve with the hexagon nut during transportation.

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	20	30	40	50	
DC~0.5	/	±1.0	±1.0	±1.0	1.25,
0.5~1	/	/	/	/	1.40@7/16DIN female

How To Order

NFA015K-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

7F - 7/16 DIN female

7 - 7/16 DIN male

Examples:

To order an attenuator, DC~1GHz, 7/16 DIN male to 7/16 DIN female, 50dB attenuation, specify NFA015K-1-50-7.

NFA18K1

DC~18GHz, 100W

Features:
 * Low VSWR
 * High Attenuation Flatness

Applications:
 * Wireless
 * Transmitter
 * Laboratory Test
 * Radar



Electrical

Frequency: DC~18GHz
 Attenuation: 3, 6~60dB
 Impedance: 50Ω
 Average Power*1: 100W@25°C max.

[1] Derated linearly to 5W@120°C.

Mechanical

RF Connectors: N, SMA, 7/16(DIN), 4.3/10

Environmental

Temperature: -55~+125°C

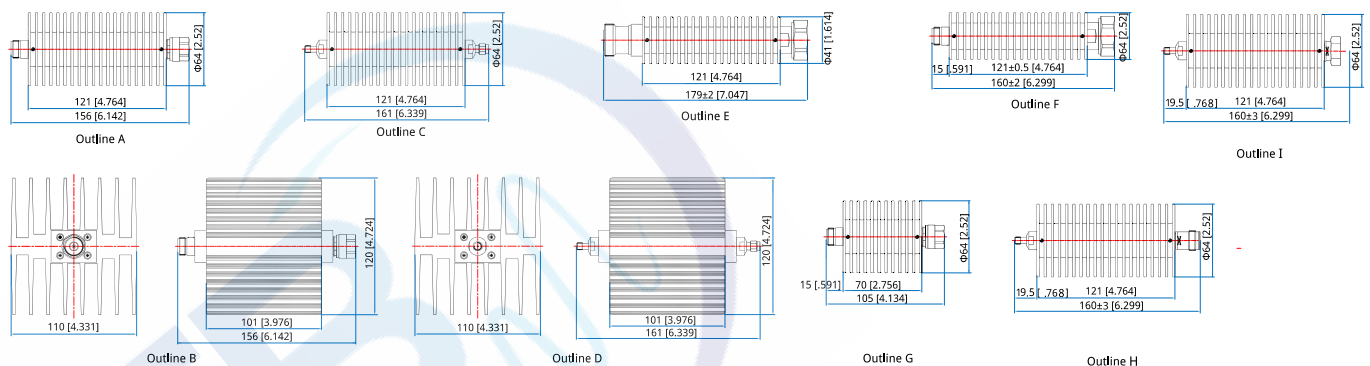
Peak Power

Peak Power (W)	Pulse Width (μs)	Duty Cycle (%)	Applicable Scope
1000	5	7.5	@SMA DC~12.4GHz
500		10	@SMA 18GHz
5000		1	@N DC~12.4GHz 7/16(DIN), 4.3/10
1000		5	@N 18GHz

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)						VSWR (max.)
	3	6~10	11~20	21~30	31~40	41~60	
DC~4	0.4	0.7	0.7	0.8	0.8	0.9-1.0	1.2
DC~8	0.5	0.8	0.8	0.9	0.9	1.0	1.25
DC~12.4	0.6	0.9	0.9	1.0	1.0	1.1	1.35
DC~18	0.8	1.5	1.5	1.3	1.3	1.4	1.45

Outline Drawings



Unit: mm [in]

Tolerance: ±1mm [±0.04in]



Fixed Attenuators

How To Order

NFA18K1-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector and shape naming rules:

N1 - Cylinder, N (Outline A, Outline G [3dB])

N2 - Cuboid, N (Outline B)

S1 - Cylinder, SMA (Outline C)

S2 - Cuboid, SMA (Outline D)

7 - 7/16(DIN) (Outline E)

7NF - In: 7/16(DIN) Male, Out: N Female (Outline F)

4FSF1 - In: 4.3/10 Female, Out: SMA Female, Cylinder(Outline H)

4SF1 - In: 4.3/10 Male, Out: SMA Female, Cylinder(Outline I)

Examples:

To order an attenuator, DC-12.4GHz, N male to N female, 9dB attenuation, Cuboid, specify NFA18K1-12.4-9-N2.

NFA18K2

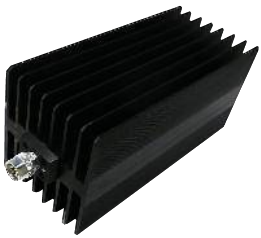
DC~18GHz, 200W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency:	DC~18GHz
Attenuation:	10~60dB
Impedance:	50Ω
Average Power*1:	200W@25°C max.
Peak Power:	5KW (5μS pulse width, 2% duty cycle) @DC~12.4GHz 1KW (5μS pulse width, 10% duty cycle) @18GHz

[1] Derated linearly to 10W@120°C.

Mechanical

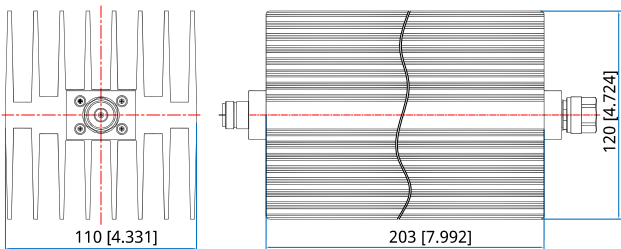
Size*2:	203*120*110mm 7.992*4.724*4.331in
RF Connectors:	N Male, N Female

[2] Exclude connectors.

Environmental

Temperature:	-55~+125°C
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Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)						VSWR (max.)
	10	20	30	40	50	60	
DC~4	0.7	0.7	0.8	0.9	0.9	0.9	1.20
DC~8	0.8	0.8	0.9	0.9	0.9	0.9	1.25
DC~12.4	1.5	0.9	1.0	1.1	1.1	1.1	1.35
DC~18	3.5	2.5	1.5	1.3	1.4	1.4	1.45

How To Order

NFA18K2-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Examples:

To order an attenuator, DC-18GHz, N male to N female, 30dB attenuation, specify NFA18K2-18-30-N.

Connector naming rules:

N - N

NFA18K3

DC~18GHz, 300W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency:	DC~18GHz
Attenuation:	3, 6, 10~60dB
Impedance:	50Ω
Average Power*1:	300W@25°C max.
Peak Power:	5KW (5μS pulse width, 3% duty cycle) @DC~12.4GHz 1KW (5μS pulse width, 15% duty cycle) @18GHz

[1] Derated linearly to 15W@120°C.

Mechanical

RF Connectors: N Male, N Female

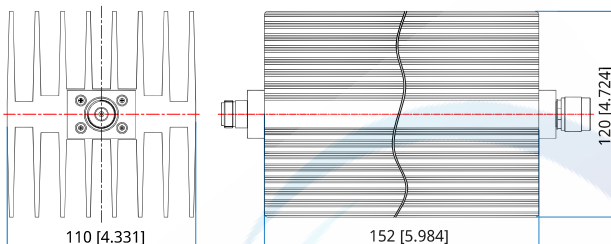
Environmental

Temperature: -55~+125°C

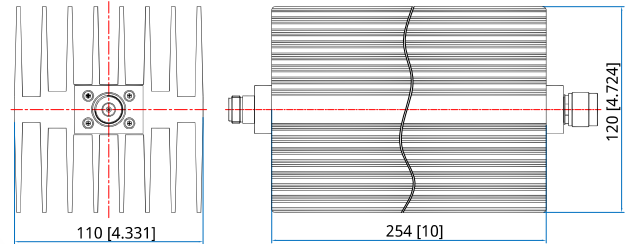
Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)								VSWR (max.)
	3	6	10	20	30	40	50	60	
DC~3	0.5	-	-	-	-	-	-	-	1.20
DC~4	-	-	0.7	0.7	0.8	0.9	0.9	0.9	1.20
DC~6	1	1.2	-	-	-	-	-	-	1.25
DC~8	-	-	0.8	0.8	0.9	0.9	0.9	0.9	1.25
DC~12.4	-	-	3.0	0.9	1.0	1.1	1.1	1.1	1.35
DC~18	-	-	3.5	-	1.5	1.3	1.3	1.4	1.45

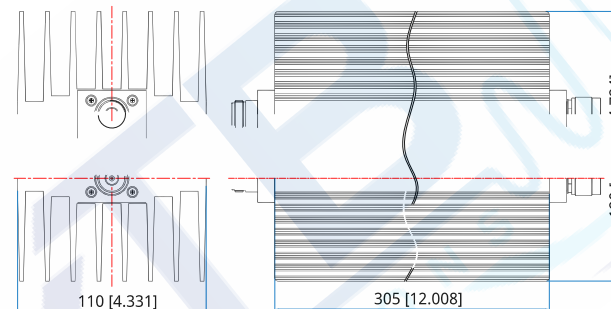
Outline Drawings



Outline A



Outline B



Outline C

Unit: mm [in]

Tolerance: ±2mm [±0.08in]

How To Order

NFA18K3-X-Y-Z

X: Frequency in GHz
Y: Attenuation in dB
3dB, DC~3GHz - Outline A
6dB, DC~6GHz - Outline B
10~60dB, DC~18GHz - Outline C
Z: Connector type

Examples:

To order an attenuator, DC-18GHz, N male to N female, 30dB attenuation, specify NFA18K3-18-30-N.

Connector naming rules:

N - N

NFA18K4

DC~18GHz, 400W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency:	DC~18GHz
Attenuation:	20~60dB
Impedance:	50Ω
Average Power*1:	400W@25°C
Peak Power:	5KW (5μS pulse width, 4% duty cycle) @DC~12.4GHz 1KW (5μS pulse width, 20% duty cycle) @18GHz

[1] Derated linearly to 20W@120°C.

Mechanical

RF Connectors: N Male, N Female

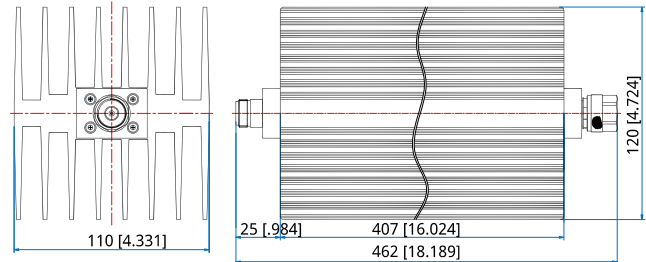
Environmental

Temperature: -55~+125°C

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs.				VSWR (max.)
	20	30	40	50~60	
DC~4	1.2	0.8	0.9	0.9	1.20
DC~8	1.5	0.9	0.9	0.9	1.25
DC~12.4	2.0	1.0	1.1	1.1	1.35
DC~18	4.5	1.5	1.5	1.5	1.45

Outline Drawings



Outline A

Unit: mm [in]

Tolerance: ±2mm [±0.08in]

How To Order

NFA18K4-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

20~60dB, DC~18GHz - Outline A

Z: Connector type

Examples:

To order an attenuator, DC-18GHz, N male to N female, 30dB attenuation, specify NFA18K4-18-30-N.

Connector naming rules:

N - N

NFA18K5

DC~18GHz, 500W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency:	DC~18GHz
Attenuation:	3, 10~60dB
Impedance:	50Ω
Average Power*1:	500W@25°C max.
Peak Power:	5KW (5μS pulse width, 5% duty cycle) @N DC~12.4GHz 1KW (5μS pulse width, 25% duty cycle) @N 18GHz

[1] Derated linearly to 25W@120°C.

Mechanical

RF Connectors: N Male, N Female

Environmental

Temperature: -55~+125°C

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)							VSWR (max.)
	3	10	20	30	40	50	60	
DC~3	-0.6/+1.5	-	-	-	-	-	-	1.25
DC~4	+2.3	-0.6/+1.5	1.2	1.0	1.0	1.0	1.0	1.25
DC~8	+3.5	-0.5/+2.0	2.0	1.5	1.1	1.1	1.1	1.30
DC~12.4	-	3.0	2.0	-1.5/+2.0	1.2	1.2	1.2	1.35
DC~18	-	6.0	5.0	0/+6.0	1.5	1.5	1.5	1.5

How To Order

NFA18K5-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Examples:

To order an attenuator, DC~18GHz, N male to N female, 30dB attenuation, specify NFA18K5-18-30-N.

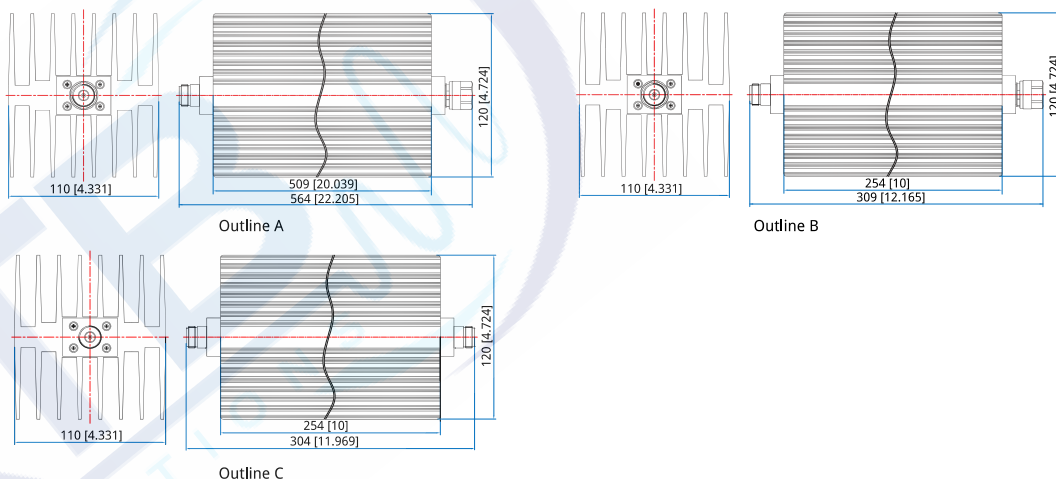
Connector naming rules:

N - N male to N female, 10~60dB, DC~18GHz (Outline A)

N - N male to N female, 3dB, DC~3GHz (Outline B)

NFNF - N female to N female, 3dB, DC~8GHz (Outline C)

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

NFA18K6

DC~18GHz, 600W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~18GHz
Attenuation:	3, 6, 10~60dB
Impedance:	50Ω
Average Power*1:	600W@25°C max.
Peak Power:	5KW (5μS pulse width, 6% duty cycle) @DC~12.4GHz 1KW (5μS pulse width, 30% duty cycle) @18GHz

[1] Derated linearly to 30W@120°C.

Mechanical

RF Connectors: N Male, N Female

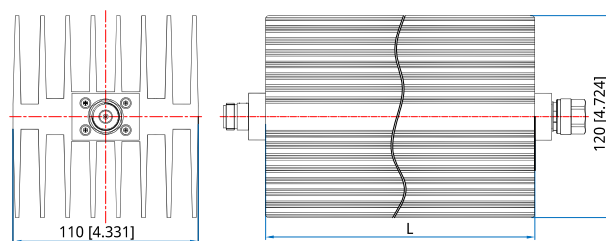
Environmental

Temperature: -55~+125°C

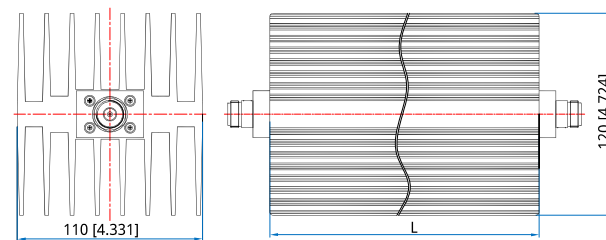
Length (mm/in)

Attenuation (dB)	L (mm [in])
3	305 [12.008]
6	407 [16.024]
10~60	509 [20.039]

Outline Drawings



Outline A



Outline B

Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)								VSWR (max.)
	3	6	10	20	30	40	50	60	
DC~4	0/+2	-1/+1.5	-0.6/+1.5	1.2	1.0	1.0	1.0	1.0	1.25
DC~8	-	-	-0.5/+2.0	2.0	1.1	1.1	1.1	1.1	1.30
DC~12.4	-	-	3.0	2.0	-1.5/+2.0	1.2	1.2	1.2	1.35
DC~18	-	-	6.0	5.0	-2.0/+6.0	2	1.5	1.5	1.50

How To Order

NFA18K6-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Examples:

To order an attenuator, DC-18GHz, N male to N female, 50dB attenuation, specify NFA18K6-18-50-N.

Connector naming rules:

N - N Male to N Female (Outline A, 3, 6, 10~60dB)

NFNF - N Female to N Female (Outline B, 10~60dB)

NFA18K15

DC~18GHz, 150W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency: DC~18GHz
 Attenuation: 3, 6~60dB
 Impedance: 50Ω
 Average Power*1: 150W@25°C max.

[1] Derated linearly to 7.5W@120°C.

Mechanical

RF Connectors: SMA, N

Environmental

Temperature: -55~+125°C

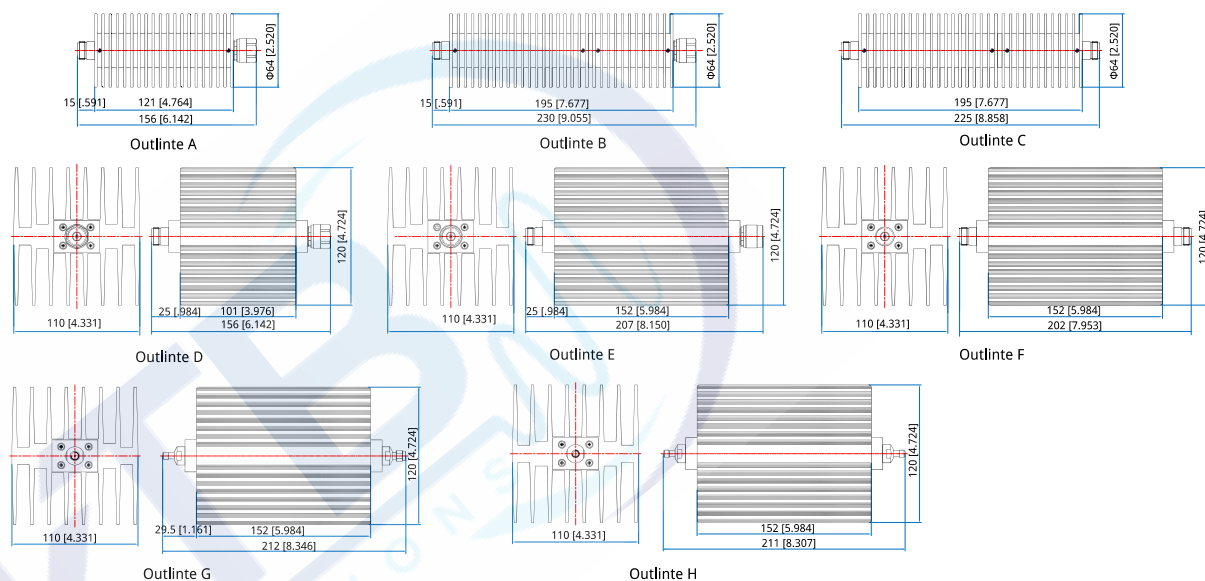
Peak Power

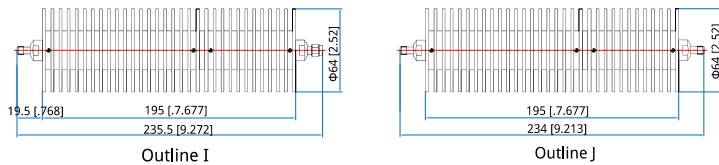
Peak Power (W)	Pulse Width (μS)	Duty Cycle (%)	Applicable Scope
1000	5	10	@SMA DC~12.4GHz
500		15	@SMA 18GHz
5000		1	@N DC~12.4GHz
1000		5	@N 18GHz

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)						VSWR (max.)
	3	6~10	20	30	40	50~60	
DC~4	0.7	0.7	0.7	0.8	0.9	0.9	1.20
DC~8	0.8	0.8	0.8	0.9	0.9	0.9	1.25
DC~12.4	-	0.9	0.9	1	1.1	1.1	1.35
DC~18	-	2	1.5	1.5	1.3	1.4	1.45

Outline Drawings





Unit: mm [in] Tolerance: $\pm 2\text{mm}$ [$\pm 0.08\text{in}$]

How To Order

NFA18K15-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Examples:

To order an attenuator, DC-18GHz, N male to N female, 30dB attenuation, cylinder, specify NFA18K15-18-30-N1.

Connector and shape naming rules:

N1 - Cylinder, N, 3dB(Outline A)

N1 - Cylinder, N, 6~60dB(Outline B)

NFNF1 - Cylinder, N Female, 6~60dB(Outline C)

N2 - Cuboid, N, 3dB(Outline D)

N2 - Cuboid, N, 6~60dB(Outline E)

NFNF2 - Cuboid, N Female, 6~60dB(Outline F)

S2 - Cuboid, SMA, 6~60dB(Outline G)

SFSF2 - Cuboid, SMA Female, 6~60dB(Outline H)

S1 - Cylinder, SMA, 6~60dB(Outline I)

SFSF1 - Cylinder, SMA Female, 6~60dB(Outline J)

NFA18K25

DC~18GHz, 250W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency:	DC~18GHz
Attenuation:	10~60dB
Impedance:	50Ω
Average Power*1:	250W@25°C max.
Peak Power:	5KW (5μS pulse width, 2.5% duty cycle) @DC~12.4GHz 1KW (5μS pulse width, 12.5% duty cycle) @18GHz

[1] Derated linearly to 12.5W@120°C.

Mechanical

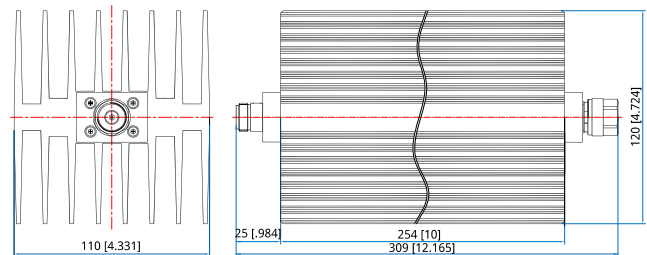
Size*2:	254*120*110mm 10*4.72*4.33in
RF Connectors:	N

[2] Exclude connectors.

Environmental

Temperature:	-55~+125°C
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Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)					VSWR (max.)
	10	20	30	40	50~60	
DC~4	0.7	0.7	0.8	0.9	0.9	1.2
DC~8	0.8	0.8	0.9	0.9	0.9	1.25
DC~12.4	2.5	0.9	1.0	1.1	1.1	1.35
DC~18	3	-	1.5	1.3	1.4	1.45

How To Order

NFA18K25-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Examples:

To order an attenuator, DC~18GHz, N male to N female, 20dB attenuation, specify NFA18K25-18-20-N.

Connector naming rules:

N - N

NFA022K

DC~2GHz, 2000W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~2GHz
Attenuation:	20, 30, 40, 50dB
Impedance:	50Ω
Average Power:	2000W@25°C max.
Peak Power:	50KW (1mS pulse width)

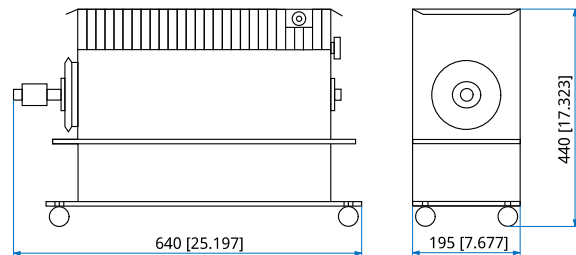
Mechanical

Size:	840*330*840mm 33.071*12.992*33.071in
RF Connectors:	7/16 DIN female N female
Housing:	Aluminum
Outer Conductor:	Nickel plated brass
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated phosphor copper
Cooling:	Oil cooling and air cooling

Environmental

Temperature:	-40~+45°C
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Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Expain:

Replace the hexagon nut with the exhaust valve before startup, and replace the exhaust valve with the hexagon nut during transportation.

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	20	30	40	50	
DC~0.7	/	±1.0	±1.0	±1.0	1.2
0.7~2	/	/	/	/	1.3

How To Order

NFA022K-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

7F - 7/16 DIN female

NF - N DIN female

Examples:

To order an attenuator, DC~2GHz, 7/16 DIN female to N female, 30dB attenuation, specify NFA022K-1-30-7FNF.

NFA26K1

DC~26.5GHz, 100W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~26.5GHz
Attenuation:	3~50dB
Impedance:	50Ω
Average Power*1:	100W@25°C max.
Peak Power:	0.5KW (5μS pulse width, 2.5% duty cycle)

[1] Derated linearly to 5W@125°C.

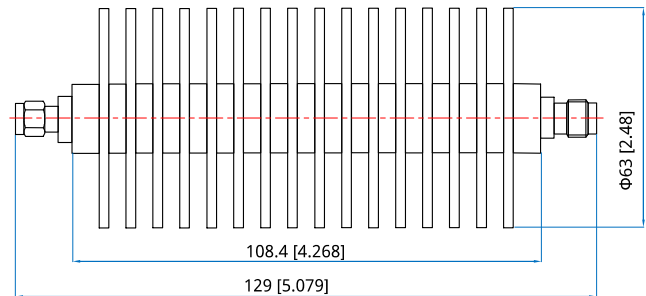
Mechanical

Weight:	390g
Connectors:	3.5mm, SMA
Housing:	Aluminum
Outer Conductor:	Gold plated brass
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature:	-55~+85°C
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Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)					VSWR (max.)
	3	6	10	20	30~50	
DC~18	±1.0	±1.0	±1.0	-1.0/+1.5	±1.0	1.30
DC~26.5	-1.0/+1.5	-1.0/+2.5	-1.0/+3.5	-1.0/+3.0	-1.0/+1.5	1.40

How To Order

NFA26K1-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

3 - 3.5mm

S - SMA

Examples:

To order an attenuator, DC-26.5GHz, SMA male to SMA female, 30dB attenuation, specify NFA26K1-26.5-30-S.

NFA031K

DC~3GHz, 1000W

Features:
 * Low VSWR
 * High Attenuation Flatness

Applications:
 * Wireless
 * Transmitter
 * Laboratory Test
 * Radar

Electrical

Frequency:	DC~3GHz
Attenuation:	30~50dB
Attenuation Accuracy:	±2dB
VSWR:	1.35 max.
Impedance:	50Ω
Average Power*1:	1000W@25°C max.

[1] Derated linearly to 50W@120°C.

How To Order

NFA031K-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

N - N male

Mechanical

RF Connectors:	N
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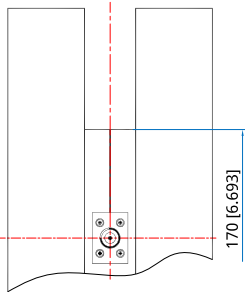
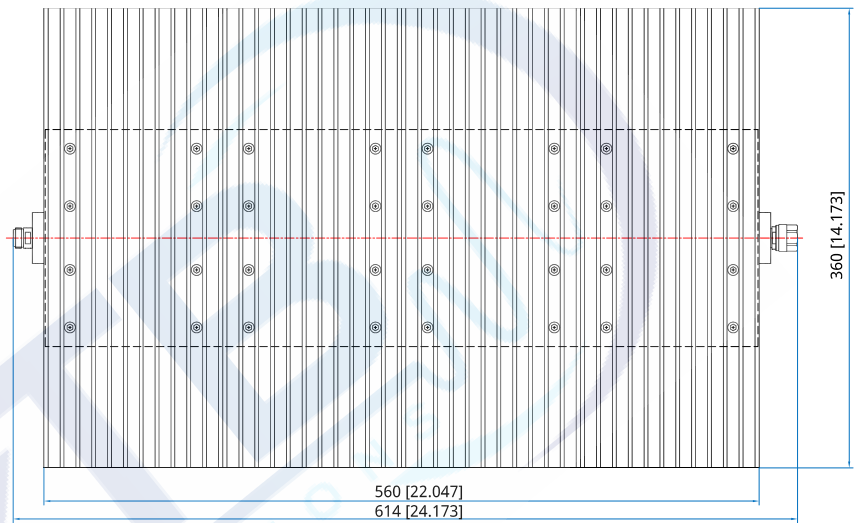
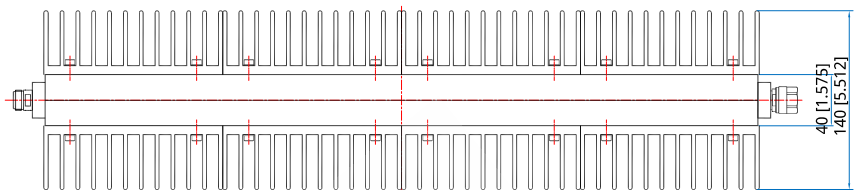
Examples:

To order an attenuator, DC~3GHz, N male to N female, 30dB attenuation, specify NFA031K-3-30-N.

Environmental

Temperature:	-55~+125°C
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Outline Drawings



Unit: mm [in] Tolerance: ±2mm [±0.08in]

NFA031K5

DC~3GHz, 1500W

- Features:

 - * Low VSWR
 - * High Attenuation Flatness
- Applications:

 - * Wireless
 - * Transmitter
 - * Laboratory Test
 - * Radar

Electrical

Frequency:	DC~3GHz
Attenuation:	20dB, 30dB, 40dB, 50dB
VSWR:	1.25 max.
Impedance:	50Ω
Average Power*1:	1500W

[1] Derated linearly to 75W@120°C.

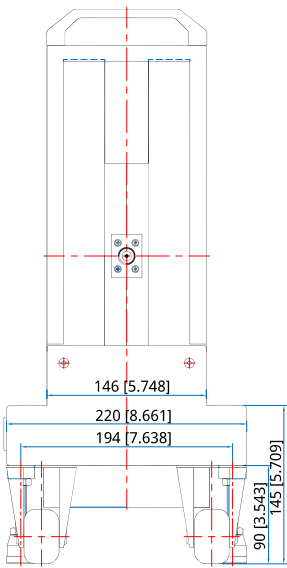
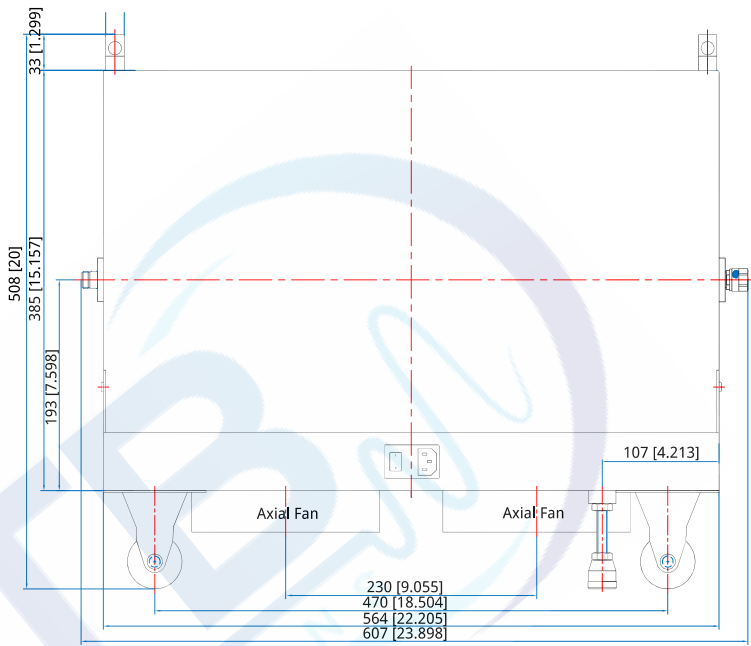
Attenuation Accuracy

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)			
	20	30	40	50
DC~3	±3.0	±2.5	±2.5	±2.5

Environmental

Temperature: -55~+125°C

Outline Drawings



Unit: mm [in]
Tolerance: ±3%

Mechanical

Size*2: 564*508*220mm
22.205*20*8.661in

RF Connectors: N

[2] Exclude connectors.

How To Order

NFA031K5-3-X-N

X: Attenuation in dB

Examples:

To order an attenuator, DC~3GHz, N male to N female, 20dB attenuation, specify NFA031K5-3-20-N.

NFA033K

DC~3GHz, 3000W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~3GHz
Attenuation:	50dB
Attenuation Accuracy:	±3dB
VSWR:	1.4 max.
Impedance:	50Ω
Average Power*1:	3000W@25°C max.
Peak Power:	10KW (5μS pulse width, 5% duty cycle)

[1] Derated linearly to 300W@125°C.

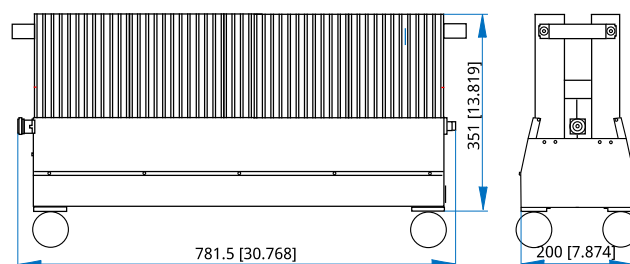
Mechanical

Size:	781.5*200*351mm 30.768*7.874*13.819in
Weight:	37Kg
RF Connectors:	N, 7/16 DIN
Housing:	Aluminum
Outer Conductor:	Nickel plated brass
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature:	-55~+125°C
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Outline Drawings



Unit: mm [in]

Tolerance: ±5mm [±0.02in]

How To Order

NFA033K-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

NF - N Female

N - N Male

7F - 7/16 DIN Female

7 - 7/16 DIN Male

Examples:

To order an attenuator, DC-3GHz, 7/16DIN female to N female, 50dB attenuation, specify NFA033K-3-50-7FNF.

NFA40K1

DC~40GHz, 100W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~40GHz
Attenuation:	10, 20, 30, 40dB
Impedance:	50Ω
Average Power*1:	100W@25°C max.
Peak Power:	1KW (5μS pulse width, 10% duty cycle)

[1] Derated linearly to 10W@125°C.

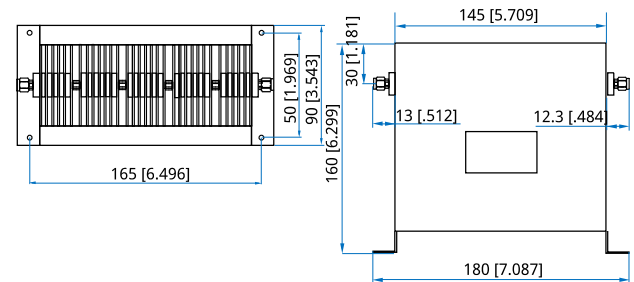
Mechanical

RF Connectors:	2.92mm
Connector Housing:	Passivated stainless steel
Heat Sinks Housing:	Aluminum black anodize
Dielectric:	PEI
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature: -55~+125°C

Outline Drawings



Unit: mm [in]
Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	10	20	30	40	
DC~40	-4.0/+4.0	-4.0/+4.0	-4.0/+4.0	-4.0/+4.0	1.40

How To Order

NFA40K1-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

K - 2.92mm

Examples:

To order an attenuator, DC~40GHz, 2.92mm male to 2.92mm female, 20dB attenuation, specify NFA40K1-40-20-K.

NFA0602

DC~6GHz, 2W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~6GHz
Attenuation:	1~30dB
Impedance:	50Ω
Average Power:	2W

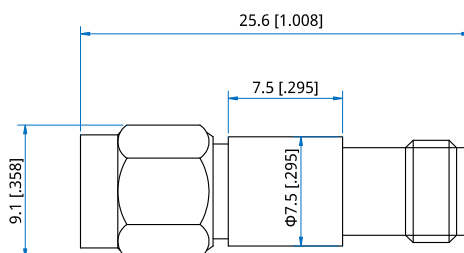
Mechanical

RF Connectors:	SMA
Weight:	5g

Environmental

Temperature:	-55~+125°C
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Outline Drawings



Unit: mm [in]
Tolerance: ±3%

Attenuation Accuracy and VSWR (SMA)

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)			VSWR (max.)
	1~10	11~20	21~30	
DC~6	±0.6	±0.8	±1.0	1.2

How To Order

NFA0602-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

S -SMA male&SMA female

Examples:

To order an attenuator, DC~6GHz, SMA male to SMA female, 20dB attenuation, specify NFA0602-6-20-S.

NFA1802

DC~18GHz, 2W

Features:
 * Low VSWR
 * High Attenuation Flatness

Applications:
 * Wireless
 * Transmitter
 * Laboratory Test
 * Radar



Electrical

Frequency: DC~18GHz
 DC~6GHz (BNC)
 Attenuation: 0~10, 12, 15, 20, 30, 40, 50, 60dB
 Impedance: 50Ω
 Average Power*1: 2W@25°C max.

[1] Derated linearly to 0.1W@120°C.

Mechanical

RF Connectors: SMA, N, TNC, BNC, SMP, SSMP, SSMA

Environmental

Temperature: -55~+125°C

Peak Power

Peak Power (W)	Pulse Width (μs)	Duty Cycle (%)	Applicable Scope
20	5	1	SMP,SSMA,SSMP,SMA (0 ~ 50dB)
500		0.2	SMA(60dB),BNC,N,TNC

Length (mm/in)

Attenuation (dB)	SMA
0~10, 12	21.6 [0.85]
15, 20, 30, 40, 50	25.1 [0.988]
60	30 [1.181]

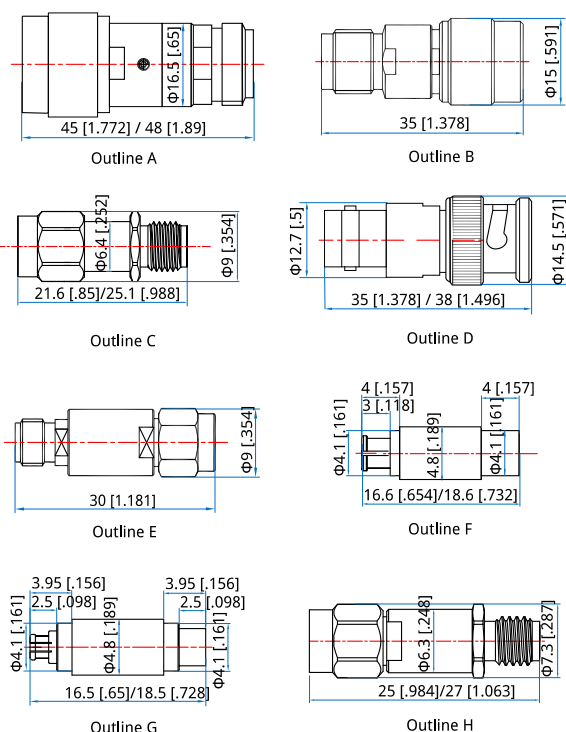
Length (mm/in)

Attenuation (dB)	N	BNC
1~10, 20, 30	45 [1.772]	35 [1.378]
40, 50, 60	48 [1.89]	38 [1.496]

Length (mm/in)

Attenuation (dB)	SMP	SSMP	SSMA
0~10, 12, 15, 20	16.6 [.654]	16.5 [.65]	25 [0.984]
30, 40	18.6 [.732]	18.5 [.728]	27 [1.063]

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR (SMA)

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)							VSWR (max.)
	0	1~6	7~10	12/15/20	30/40	50	60	
DC~4	-0.2/+0.2	-0.4/+0.4	-0.6/+0.4	-0.6/+0.4	-0.8/+0.6	-1.0/+0.9	0.8	1.25, 1.2@60dB
DC~8	-0.2/+0.2	-0.4/+0.4	-0.6/+0.4	-0.6/+0.4	-0.8/+0.6	-1.0/+0.9	0.9	1.25, 1.25@60dB
DC~12.4	-0.2/+0.3	-0.4/+0.5	-0.6/+0.5	-0.6/+0.5	-0.8/+0.7	-1.0/+1.0	1.1	1.3, 1.25@60dB
DC~18	-0.2/+0.4	-0.4/+0.6	-0.6/+0.6	-0.6/+0.6	-0.8/+0.8	-1.0/+1.5	1.5	1.35, 1.3@60dB

Attenuation Accuracy and VSWR (N)

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)						VSWR (max.)
	1~10	20	30	40	50	60	
DC~4	0.4	0.5	0.6	0.7	0.7	0.8	1.2
DC~6	0.5	0.6	0.8	0.8	0.8	0.9	1.2
DC~12.4	0.6	0.7	0.8	0.9	1.0	1.1	1.3
DC~18	0.7	0.8	1.0	1.2	-	-	1.35

Attenuation Accuracy and VSWR (TNC)

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)						VSWR (max.)
	1~10	11~20	21~30	40	50	60	
DC~4	0.4	0.5	0.7	0.7	0.7	0.8	1.2
DC~8	0.5	0.6	0.8	0.8	0.8	0.9	1.25
DC~12.4	0.6	0.7	0.9	0.9	1.0	1.1	1.25
DC~18	0.6	0.8	1.0	1.2	1.5	1.5	1.3

Attenuation Accuracy and VSWR (BNC)

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)				VSWR (max.)
	1~7	7~20	21~30	40~60	
DC~4	0.3	0.5	0.75	0.8	1.25
DC~6	0.3	0.5	0.75	0.8	1.25

Attenuation Accuracy and VSWR(SMP/SSMP/SSMA)

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)								VSWR (max.)
	0	1~6	7~10	12	15	20	30	40	
DC~18	-0.2/+0.4	-0.4/+0.6	-0.6/+0.6	-0.6/+0.6	-0.6/+0.6	-0.6/+0.6	-0.8/+0.8	-0.8/+0.8	1.35

How To Order

NFA1802-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Examples:

To order an attenuator, DC-18GHz, SMA male to SMA female, 30dB attenuation, specify NFA1802-18-30-S.

Connector naming rules:

N - N (Outline A)

T - TNC (Outline B)

S - SMA (Outline C - 0~10, 12, 15, 20, 30, 40dB, 50, Outline E - 60dB)

B - BNC (Outline D)

P - SMP (Outline F)

G - SSMP (Outline G)

A - SSMA (Outline H)

NFA1805

DC~18GHz, 5W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency:	DC~18GHz
Attenuation:	1~60dB
Impedance:	50Ω
Average Power*1:	5W@25°C max.
Peak Power:	500W (5μS pulse width, 0.5% duty cycle) @SMA 500W (5μS pulse width, 0.25% duty cycle) @N

[1] Derated linearly to 0.25W@120°C.

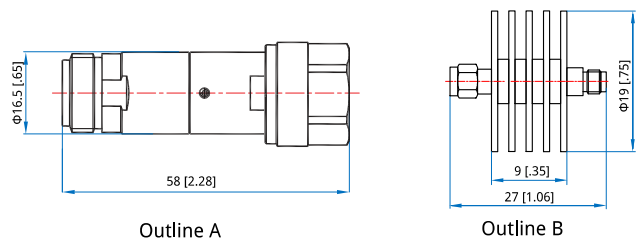
Mechanical

RF Connectors:	N Male, N Female SMA Male, SMA Female
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Environmental

Temperature:	-55~+125°C
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Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR (N)

Frequency(GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)						VSWR (max.)
z)	1~10	20	30	40	50	60	
DC~4	0.4	0.5	0.6	0.7	0.7	0.8	1.15
DC~8	0.5	0.6	0.8	0.8	0.8	0.9	1.20
DC~12.4	0.6	0.7	0.8	0.9	1.0	1.1	1.30
DC~18	0.7	0.8	1.0	1.2	1.3	1.3	1.35

Attenuation Accuracy and VSWR (SMA)

Frequency(GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)			VSWR (max.)
	1~10	11~20	21~30	
DC~4	0.4	0.5	0.7	1.2
4~8	0.5	0.6	0.8	1.25
8~12.4	0.6	0.7	0.9	1.35
12.4~18	0.6	0.8	1.0	1.45

How To Order

NFA1805-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Examples:

To order an attenuator, DC-18GHz, N male to N female, 3dB attenuation, specify NFA1805-18-3-N.

Connector naming rules:

N - N (Outline A)

S - SMA (Outline B)

NFA1810

DC~18GHz, 10W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency:	DC~18GHz
Attenuation:	1~40dB
Impedance:	50Ω
Average Power ^{*1} :	10W@25°C max.
Peak Power:	500W (5μS pulse width, 1% duty cycle) @SMA 1KW (5μS pulse width, 0.5% duty cycle) @N

[1] Derated linearly to 0.5W@120°C.

Mechanical

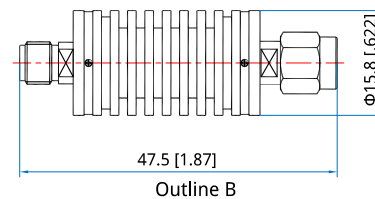
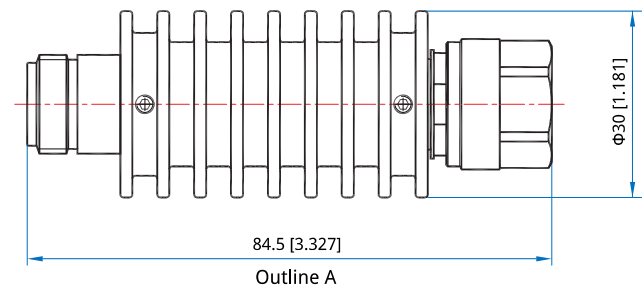
Size ^{*2} :	Φ30*84.5mm Φ1.181*3.327in
Size ^{*3} :	Φ15.8*47.5mm Φ0.622*1.87in
RF Connectors ^{*2} :	N Male, N Female
RF Connector ^{*3} :	SMA Male, SMA Female

[2] N connectors
[3] SMA connectors

Environmental

Temperature: -55~+125°C

Outline Drawings



Unit: mm [in]
Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	1~10	11~20	21~30	31~40	
DC~4	0.4	0.5	0.6	0.7	1.2
DC~8	0.5	0.6	0.8	0.8	1.25
DC~12.4	0.6	0.7	0.8	0.9	1.35
DC~18	0.8	0.9	1.0	1.2	1.45

How To Order

NFA1810-X-Y-Z

X: Frequency in GHz
Y: Attenuation in dB
Z: Connector type

Connector naming rules:

N - N (Outline A)
S - SMA (Outline B)

Examples:

To order an attenuator, DC-18GHz, N male to N female, 3dB attenuation, specify NFA1810-18-3-N.

NFA1820

DC~18GHz, 20W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency: DC~18GHz
 Attenuation: 1~60dB
 Impedance: 50Ω
 Average Power*1: 20W@25°C max.

[1] Derated linearly to 1W@120°C.

Mechanical

RF Connectors: SMA, N

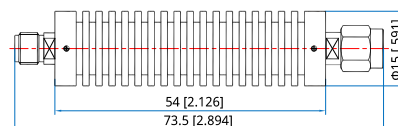
Environmental

Temperature: -55~+125°C

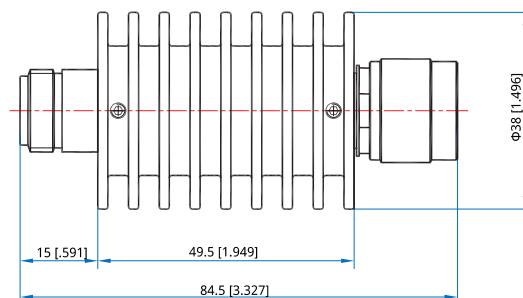
Peak Power

Peak Power (W)	Pulse Width (μs)	Duty Cycle (%)	Applicable Scope
500	5	2	@SMA,DC~18GHz
5000		1	@N,DC~12.4GHz
1000		1	@N,18GHz

Outline Drawings



Outline A



Outline B

Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR (SMA)

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)						VSWR (max.)
	1~10	11~20	21~30	31~40	41~50	51~60	
DC~4	0.4	0.5	0.6	0.7	0.8	0.9	1.2
DC~8	0.5	0.6	0.8	0.8	0.8	1.0	1.25
DC~12.4	0.6	0.7	0.8	0.9	1.0	1.2	1.3
DC~18	0.6	0.8	1.0	1.2	1.3	1.5	1.35

Attenuation Accuracy and VSWR (N)

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	1~10	11~20	21~30	31~40	
DC~4	0.4	0.5	0.6	0.7	1.2
DC~8	0.5	0.6	0.8	0.8	1.25
DC~12.4	0.6	0.7	0.8	0.9	1.35
DC~18	0.6	0.8	1.0	1.2	1.45

How To Order

NFA1820-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

S - SMA (Outline A)

N - N (Outline B)

Examples:

To order an attenuator, DC-18GHz, N male to N female, 3dB attenuation, specify NFA1820-18-3-N.

NFA1825

DC~18GHz, 25W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency:	DC~18GHz
Attenuation:	1~50dB
Impedance:	50Ω
Average Power*1:	25W@25°C

[1] Derated linearly to 1.25W@120°C.

Mechanical

Size*2:	Φ44*89mm
	Φ1.732*3.504in
Size*3:	Φ44*94mm
	Φ1.732*3.701in
RF Connectors*2:	N Male, N Female
RF Connectors*3:	SMA Male, SMA Female

[2] N connectors.

[3] SMA connectors.

Environmental

Temperature:	-55~+125°C
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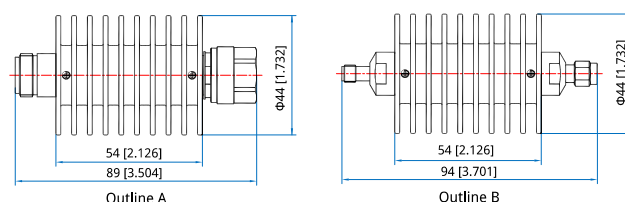
Peak Power

Peak Power (W)	Pulse Width (μs)	Duty Cycle (%)	Applicable Scope
500	5	2.5	@SMA,DC~18GHz
5000		1.25	@N,DC~12.4GHz
1000		1.25	@N,18GHz

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	1~10	11~20	21~30	40~50	
DC~4	0.4	0.5	0.6	0.7	1.2
DC~8	0.5	0.6	0.8	0.8	1.25
DC~12.4	0.7	0.8	0.9	1.0~1.1	1.35
DC~18	0.8	0.9	1.1	1.2~1.3	1.45

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

How To Order

NFA1825-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

N - N (Outline A)

S - SMA (Outline B)

Examples:

To order an attenuator, DC-18GHz, N male to N female, 3dB attenuation, specify NFA1825-18-3-N.

NFA1830

DC~18GHz, 30W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency: DC~18GHz
 Attenuation: 1~40dB
 Impedance: 50Ω
 Average Power^{*1}: 30W@25°C max.

[1] Derated linearly to 1.5W@120°C.

Mechanical

Size^{*2}: Φ38*105mm
 Φ1.496*4.134in
 Size^{*3}: Φ38*110mm
 Φ1.496*4.331in
 RF Connectors^{*2}: N Male, N Female
 RF Connectors^{*3}: SMA Male, SMA Female

[2] N connectors.

[3] SMA connectors.

Environmental

Temperature: -55~+125°C

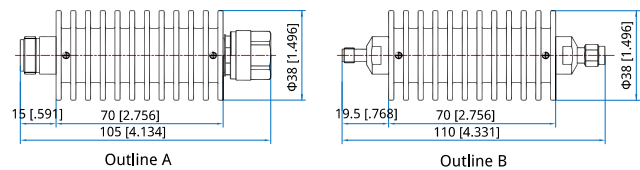
Peak Power (W)	Pulse Width (μS)	Duty Cycle (%)	Applicable Scope
500	5	6	@SMA,DC~18GHz
5000		0.15	@N,DC~12.4GHz
1000		0.15	@N,18GHz

Peak Power

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	1~10	11~20	21~30	31~40	
DC~4	0.4	0.5	0.6	0.7	1.2
DC~8	0.5	0.6	0.8	0.8	1.25
DC~12.4	0.6	0.7	0.8	0.9	1.35
DC~18	0.8	0.9	1.2	1.5	1.45

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

How To Order

NFA1830-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

N - N (Outline A)

S - SMA (Outline B)

Examples:

To order an attenuator, DC-18GHz, N male to N female, 3dB attenuation, specify NFA1830-18-3-N.

NFA1850

DC~18GHz, 50W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar



Electrical

Frequency:	DC~18GHz
Attenuation:	1~50dB
Impedance:	50Ω
Average Power ^{*1} :	50W@25°C max.

[1] Derated linearly to 2.5W@120°C.

Mechanical

Size ^{*2} :	Φ64*105mm Φ2.52*4.134in
Size ^{*3} :	Φ64*110.5mm Φ2.52*4.35in
RF Connectors ^{*2} :	N Male, N Female
RF Connectors ^{*3} :	SMA Male, SMA Female

[2] N connectors.

[3] SMA connectors.

Environmental

Temperature:	-55~+125°C
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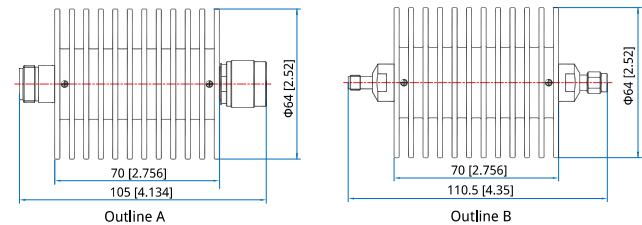
Peak Power

Peak Power (W)	Pulse Width (μS)	Duty Cycle (%)	Applicable Scope
500	5	5	@SMA,DC~18GHz
5000		0.5	@N,DC~12.4GHz
1000		2.5	@N,18GHz

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	1~10	11~20	21~30	31~50	
DC~4	0.4	0.5	0.7	0.7	1.2
DC~8	0.5	0.6	0.8	0.8	1.25
DC~12.4	0.6	0.7	0.8	1.1	1.35
DC~18	0.8	0.9	1.1	1.3	1.45

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

How To Order

NFA1850-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

N - N (Outline A)

S - SMA (Outline B)

Examples:

To order an attenuator, DC-12.4GHz, N male to N female, 3dB attenuation, specify NFA1850-12.4-3-N.

NFA2602

DC~26.5GHz, 2W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~26.5GHz
Attenuation:	0~90dB
Impedance:	50Ω
Average Power*1:	2W@25°C max.

[1] Derated linearly to 0.5W@125°C.

Mechanical

RF Connectors:	SMA, 3.5mm, SMP, SSMP, SSMA
Outer Conductor:	Passivated stainless steel or gold/nickel plated brass
Inner Conductor:	Gold plated brass/beryllium copper

Environmental

Temperature:	-55~+85°C
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Peak Power (W)	Pulse Width (μS)	Duty Cycle (%)	Applicable Scope
20	5	1	@SMA(0~40dB), SMP,SSMP,SSMA
500		0.2	@3.5mm
		0.4	@SMA(50~90dB)

Peak Power

Length (mm/in)

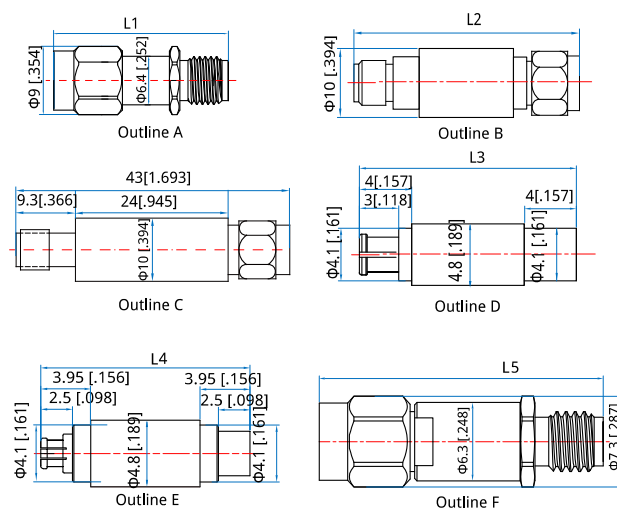
Attenuation (dB)	L1 (mm [in])	L3(mm [in])	L4(mm [in])	L5(mm [in])
0~10, 12, 15, 20	21.6 [.85]	16.8 [.661]	16.5 [.65]	25 [.984]

Attenuation Accuracy and VSWR (SMA)

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)										VSWR (max.)	
	0	1~6	7~10	12/15/20	30/40	50	60	70	80	90	0~40	50~90
DC~4	-0.2/+0.3	-0.4/+0.5	-0.6/+0.5	-0.6/+0.5	-0.8/+0.7	±0.5	±0.8	±1	±1	±1.5	1.3	1.15
DC~8	-0.2/+0.3	-0.4/+0.5	-0.6/+0.5	-0.6/+0.5	-0.8/+0.7	±0.6	±1	±1	±1	±1.5	1.3	1.2
DC~12.4	-0.2/+0.3	-0.4/+0.5	-0.6/+0.5	-0.6/+0.5	-0.8/+0.7	±0.8	±1	±1.2	±1.2	±2	1.3	1.25
DC~18	-0.2/+0.4	-0.4/+0.6	-0.6/+0.6	-0.6/+0.6	-0.8/+0.8	±1.5	±1.5	±1.5	±1.5	±2	1.35	1.3
DC~26.5	-0.2/+0.6	-0.4/+0.8	-0.6/+0.8	-0.6/+0.8	-0.8/+1.0	±2	±2	±2	-	-	1.4	1.35

30, 40	25.1 [.988]	18.6 [.732]	18.5 [.728]	27 [1.063]
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Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Length (mm/in)

Attenuation (dB)	L2 (mm [in])
1~20	37 [1.457]
30	37 [1.457]
40	40.3 [1.587]
50~70	46 [1.811]

Attenuation Accuracy and VSWR (3.5mm)

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)						VSWR (max.)
	1~9	10~19	20~30	40	50	60~70	
DC~12.4	-0.3/+0.5	-0.3/+0.6	-0.3/+0.6	-0.3/+0.7	± 1	± 1	1.15
DC~18	-0.3/+0.6	-0.3/+0.7	-0.3/+0.8	-0.5/+1	± 1	± 1	1.2
DC~26.5	-0.3/+1	-0.3/+1	-0.3/+1	-1/+1.5	± 1.5	± 1	1.25

Attenuation Accuracy and VSWR(SMP/SSMP/SSMA)

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)								VSWR (max.)
	0	1~6	7~10	12	15	20	30	40	
DC~26.5	-0.2/+0.6	-0.4/+0.8	-0.6/+0.8	-0.6/+0.8	-0.6/+0.8	-0.6/+0.8	-0.8/+1.0	-0.8/+1.0	1.4

How To Order

NFA2602-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Examples:

To order an attenuator, DC~26.5GHz, SMA male to SMA female, 20dB attenuation, specify NFA2602-26.5-20-S.

Connector naming rules:

S -SMA (Outline A - 0~40dB, Outline C - 50~90dB)

3 - 3.5mm (Outline B)

P - SMP (Outline D)

G - SSMP (Outline E)

A - SSMA (Outline F)

NFA2605

DC~26.5GHz, 5W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~26.5GHz
Attenuation:	1~80dB
Impedance:	50Ω
Average Power*1:	5W@25°C max.
Peak Power:	200W (5μS pulse width, 0.012% duty cycle) @SMA(1~30dB) 1KW (5μS pulse width, 0.5% duty cycle) @SMA(40~50dB) ,3.5mm

[1] Derated linearly to 0.25W@120°C.@SMA(1~30dB)

[2] Derated linearly to 0.25W@120°C.@SMA(40~50dB) ,3.5mm

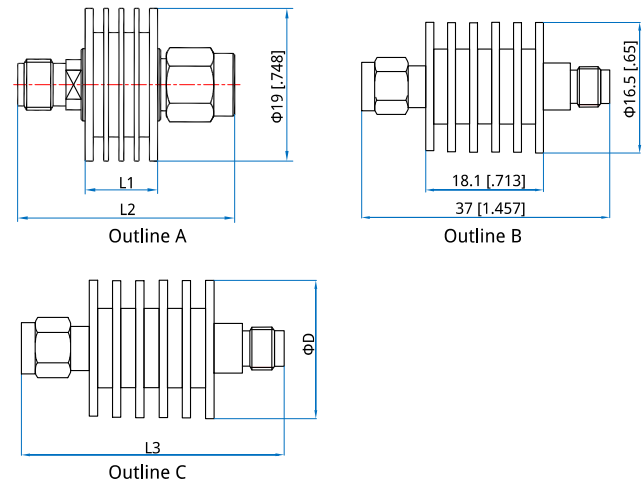
Mechanical

RF Connectors:	SMA, 3.5mm
Housing:	Aluminum
Outer Conductor:	Passivated stainless steel or gold/nickel plated brass
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature:	-55~+85°C
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Outline Drawings



Attenuation (dB)	L1 (mm [in])	L2 (mm [in])	L3 (mm [in])	D
1~20	9 [.354]	27 [1.063]	37 [1.457]	15.7 [.618]
30	12 [.472]	30 [1.181]	37 [1.457]	15.7 [.618]
40	-	-	40.3 [1.587]	16.5 [.65]
50~80	-	-	46 [1.811]	16.5 [.65]

Unit: mm [in]

Tolerance: ±2mm [±0.08in]

How To Order

NFA2605-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

S -SMA (Outline A - 1~30dB,

S -SMA (Outline B - 40~50dB)

3 - 3.5mm (Outline C)

Examples:

To order an attenuator, DC~26.5GHz, SMA male to SMA female, 20dB attenuation, specify NFA2605-26.5-20-S.

Attenuation Accuracy and VSWR (SMA)

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)					VSWR (max.)
	1~10	20	30	40	50	
DC~4	±0.5	±0.5	±0.6	±0.4	±0.5	1.15
DC~8	±0.5	±0.5	±0.6	±0.5	±0.5	1.2
DC~12.4	±0.5	±0.5	±0.6	±0.5	±0.5	1.25
DC~18	±0.6	±0.6	±0.7	±1	±1	1.3
DC~26.5	±0.7	±0.7	±0.8	-0.5/+1.5	-0.5/+1.5	1.35

Attenuation Accuracy and VSWR (3.5mm)

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)						VSWR (max.)
	1~10	11~30	40	50~60	70	80	
DC~12.4	±0.6	±0.5	-0.5/+0.7	±1	-1/+1.5	-1.2/+1.5	1.15
DC~18	±0.8	±0.8	-0.5/+1	-1/+1.2	-1/+1.5	-1.2/+1.5	1.2
DC~26.5	±1	-0.5/+1.2	-0.5/+1.2	-1/+1.5	-1/+1.5	-1.2/+1.5	1.25

NFA2610

DC~26.5GHz, 10W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~26.5GHz
Attenuation:	1~70dB
Impedance:	50Ω
Average Power*1:	10W@25°C max.
Peak Power:	500W (5μS pulse width, 1% duty cycle) @SMA 1KW (5μS pulse width, 0.5% duty cycle) @3.5mm

[1] Derated linearly to [0.5W@120°C.@SMA](#)

[2] Derated linearly to 1W@125°C.@3.5mm

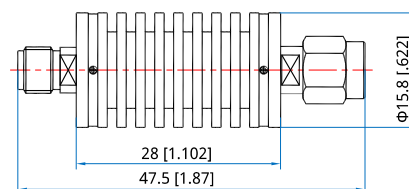
Mechanical

RF Connectors:	SMA, 3.5mm
Housing:	Aluminum
Outer Conductor:	Passivated stainless steel or gold/nickel plated brass
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

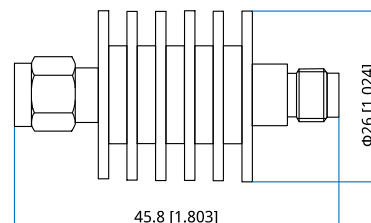
Environmental

Temperature: -55~+85°C

Outline Drawings



Outline A



Outline B

Unit: mm [in]

Tolerance: ±2mm [±0.08in]

How To Order

NFA2610-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

S -SMA (Outline A)

3 - 3.5mm (Outline B)

Examples:

To order an attenuator, DC~26.5GHz, SMA male to SMA female, 20dB attenuation, specify NFA2610-26.5-20-S.

Attenuation Accuracy and VSWR (SMA)

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	1~10	11~20	21~30	31~40	
DC~4	±0.7	±0.7	±0.7	±0.7	1.15
DC~8	±0.7	±0.7	±0.7	±0.8	1.2
DC~12.4	±0.8	±0.8	±0.9	±0.9	1.25
DC~18	±1	±1	±1	±1.2	1.3
DC~26.5	±1	±1.1	±1.2	±1.3	1.35

Attenuation Accuracy and VSWR (3.5mm)

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)						VSWR (max.)
	1~10	20, 30	40	50	60	70	
DC~12.4	±0.6	±0.5	-0.5/+0.7	±1	-1/+1.5	-1.2/+1.5	1.15
DC~18	±0.8	±0.8	-0.5/+1	-1/+1.2	-1/+1.5	-1.2/+1.5	1.2
DC~26.5	±1	-0.5/+1.2	-0.5/+1.2	-1/+1.5	-1/+1.5	-1.2/+1.8	1.25

NFA2620

DC~26.5GHz, 20W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~26.5GHz
Attenuation:	3dB, 6dB, 10dB, 20dB, 30dB
Impedance:	50Ω
Average Power*1:	20W@25°C max.
Peak Power:	200W (5μS pulse width, 10% duty cycle)

[1] Derated linearly to 2W@125°C.

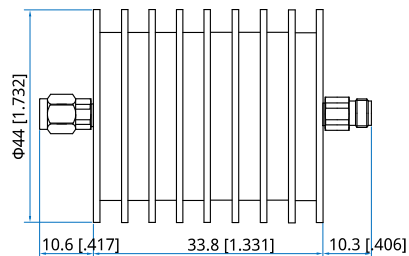
Mechanical

RF Connectors:	SMA
Housing:	Aluminum
Dielectric:	PTFE
Outer Conductor:	Passivated stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature: -55~+125°C

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)					VSWR (max.)
	3	6	10	20	30	
DC~26.5	-1.2/+1.2	-1.2/+1.2	-1.5/+1.5	-1.5/+1.5	-1.5/+1.5	1.3

How To Order

NFA2620-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

S - SMA

Examples:

To order an attenuator, DC~26.5GHz, SMA male to SMA female, 10dB attenuation, specify NFA2620-26.5-10-S.

NFA2630

DC~26.5GHz, 30W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~26.5GHz
Attenuation:	1~10, 20, 30, 40, 50, 60dB
Impedance:	50Ω
Average Power ^{*1, 2} :	30W@25°C max.
Peak Power:	200W (5μS pulse width, 10% duty cycle)

[1] Derated linearly to 3W@125°C. (20, 30, 40dB)

[2] Derated linearly to 3W@115°C. (1~10, 50, 60dB)

Mechanical

RF Connectors:	SMA
Housing ^{*3} :	Aluminum
Dielectric:	PEI
Outer Conductor:	Passivated stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

[3] The above materials are only 20, 30, 40dB

Environmental

Temperature: -55~+125°C

How To Order

NFA2630-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

20, 30, 40dB - Outline A

1~10, 50, 60dB - Outline B

Z: Connector type

Connector naming rules:

S - SMA

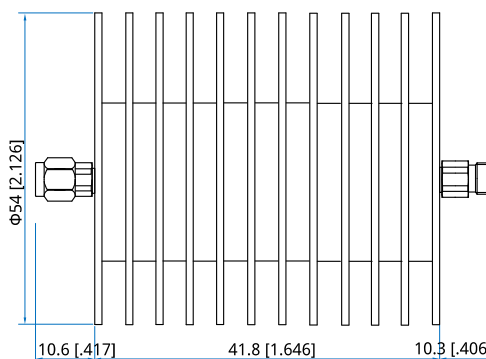
Examples:

To order an attenuator, DC~26.5GHz, SMA male to SMA female, 20dB attenuation, specify NFA2630-26.5-20-S.

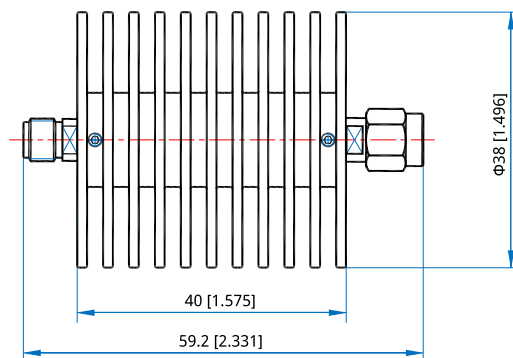
Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)							VSWR (max.)
	1-5	6-10	20	30	40	50	60	
DC~26.5	+2.4	+1.2	-	-	-	+1.4	+1.5	1.35
DC~26.5	-	-	-1.5/+1.5	-1.5/+1.5	-1.5/+1.5	-	-	1.3

Outline Drawings



Outline A



Outline B

Unit: mm [in]

Tolerance: ±2mm [±0.08in]

NFA2650

DC~26.5GHz, 50W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~26.5GHz
Attenuation:	1~60dB
Impedance:	50Ω
Average Power*1:	50W@25°C max.

[1] Derated linearly to 5W@125°C.

Mechanical

RF Connectors:	SMA, 3.5mm
Housing:	Aluminum
Outer Conductor:	Passivated stainless steel or gold plated brass
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature:	-55~+85°C
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Peak Power

Peak Power (W)	Pulse Width (μs)	Duty Cycle (%)	Applicable Scope
200	5	10	@SMA 10, 20, 30, 40dB
500		10	@3.5mm 10, 20, 30, 40dB
1000		5	@SMA 50, 60dB
		2.5	@SMA 1~9dB
			@3.5mm 3, 6, 50, 60dB

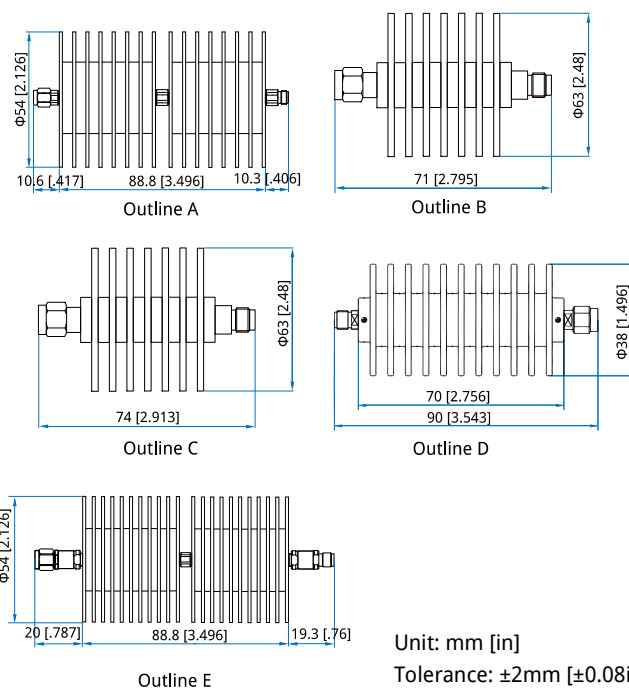
Attenuation Accuracy and VSWR (SMA)

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)							VSWR (max.)
	1~9	10	20	30	40	50	60	
DC~26.5	-1.0/+2.5	-2.0/+2.0	-2.0/+2.0	-2.0/+2.0	-2.0/+2.0	±1.0	±1.0	1.3

Attenuation Accuracy and VSWR (3.5mm)

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)								VSWR (max.)
	3	6	10	20	30	40	50	60	
DC~12.4	-0.8/+0.3	±1.0	-	-	-	-	-1.0/+0.75	-1.0/+0.5	1.20
DC~18	±0.8	±1.0	-	-	-	-	±1.0	-1.0/+0.75	1.25
DC~26.5	-0.8/+1.0	-1.0/+1.7	-2.0/+2.0	-2.0/+2.0	-2.0/+2.0	-2.0/+2.0	±1.0	±1.0	1.30, 1.35@10~40dB

Outline Drawings



Unit: mm [in]
Tolerance: ±2mm [±0.08in]

How To Order

NFA2650-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

S-SMA (Outline D - 1~9dB, Outline A - 10~40dB, Outline B - 50~60dB)
3-3.5mm (Outline C - 3, 6, 50, 60dB, Outline E - 5-10~40dB)

Examples:

To order an attenuator, DC~26.5GHz, SMA male to SMA female, 20dB attenuation, specify NFA2650-26.5-20-S.

NFA4002

DC~40GHz, 2W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~40GHz
Attenuation:	0~15, 20, 25, 30, 40, 50dB
Impedance:	50Ω
Average Power*1:	2W@25°C max.

[1] Derated linearly to 0.5W@125°C.

Mechanical

RF Connectors:	2.92mm, SMP, SSMP, SSMA
Outer Conductor:	Passivated stainless steel/ Gold plated brass/Gold plated beryllium copper
Dielectric:	PEI/PTFE
Inner Conductor:	Gold plated brass/Gold plated beryllium copper

Environmental

Temperature: -55~+125°C

Length (mm/in)

Attenuation (dB)	2.92mm
0	21.9 [.862]
1~30	17.2 [.677]
40	47.6 [1.874]
50	49 [1.929]

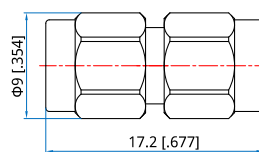
Length (mm/in)

Attenuation (dB)	SMP	SSMP	SSMA
0~10, 12, 15, 20	16.6 [.654]	16.5 [.65]	25 [.984]
30	18.6 [.732]	18.5 [.728]	27 [1.063]

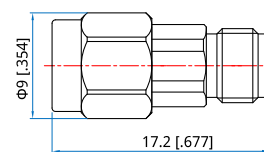
Peak Power

Peak Power (W)	Pulse Width (μS)	Duty Cycle (%)	Applicable Scope
20	5	1	2.92mm(1~30dB), SMP, SSMP, SSMA
200		1	2.92mm(40, 50dB)

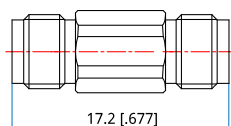
Outline Drawings



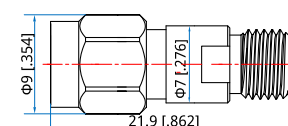
Outline A



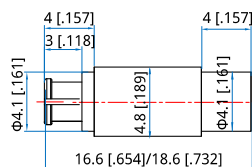
Outline B



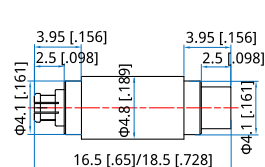
Outline C



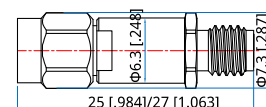
Outline D



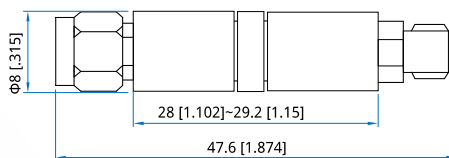
Outline E



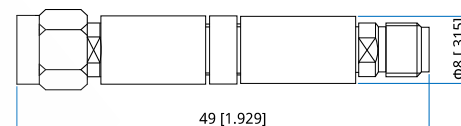
Outline F



Outline G



Outline H



Outline I

Unit: mm [in]

Tolerance: ±0.2mm [±0.008in]

Attenuation Accuracy and VSWR(2.92mm)

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)							VSWR (max.)
	0	1~3	4~15	20/25	30	40	50	
DC~40	-0.2/+0.8	± 0.6	± 0.7	± 0.8	± 1	-1.0/+2.0	-1.0/+2.0	1.25, 1.35@0dB, 1.4@40, 50dB

Attenuation Accuracy and VSWR(SMP/SSMP/SSMA)

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)							VSWR (max.)
	0	1~6	7~10	12	15	20	30	
DC~40	-0.2/+0.8	-0.4/+1.0	-0.6/+1.0	-0.6/+1.0	-0.6/+1.0	-0.6/+1.0	-1.2/+1.2	1.45

How To Order

NFA4002-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Examples:

To order an attenuator, DC~40GHz, 2.92mm male to 2.92mm female, 3dB attenuation, specify NFA4002-40-3-K.

Connector naming rules:

K - 2.92mm

KK - Outline A

K - (Outline B -1 ~ 30dB, Outline D - 0dB, Outline H - 40dB, Outline I - 50dB)

KFKF - Outline C

P - SMP (Outline E)

G - SSMP (Outline F)

A - SSMA (Outline G)

NFA4005

DC~40GHz, 5W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~40GHz
Attenuation:	1~10dB, 20dB, 30dB, 40dB
Impedance:	50Ω
Average Power*1:	5W@25°C max.
Peak Power:	200W (5μS pulse width, 1.25% duty cycle) @1~30dB 50W (5μS pulse width, 1% duty cycle) @40dB

[1] Derated linearly to 0.5W@125°C.

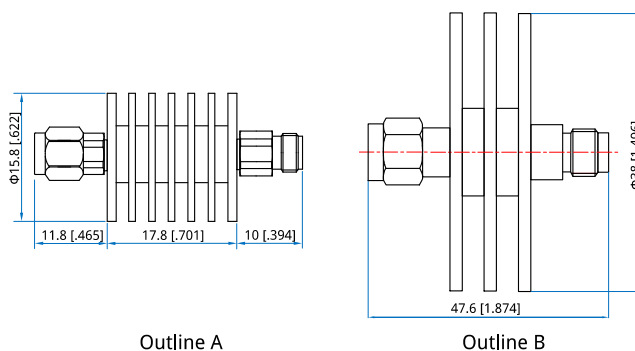
Mechanical

RF Connectors:	2.92mm
Housing:	Aluminum
Dielectric:	PEI
Outer Conductor:	Stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature:	-55~+85°C
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Outline Drawings



Unit: mm [in]
Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	1~10	20	30	40	
DC~40	-0.7/+1.0	-0.7/+1.0	-0.7/+1.0	-1.0/+2.0	1.25, 1.40@40dB

How To Order

NFA4005-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB (Outline A - 1~30dB, Outline B - 40dB)

Z: Connector type

Connector naming rules:

K - 2.92mm

Examples:

To order an attenuator, DC~40GHz, 2.92mm male to 2.92mm female, 3dB attenuation, specify NFA4005-40-3-K.

NFA4010

DC~40GHz, 10W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~40GHz
Attenuation:	1~10dB, 20dB, 30dB, 40dB
Impedance:	50Ω
Average Power*1:	10W@25°C max.
Peak Power:	100W (5μs pulse width, 5% duty cycle)@1~30dB 200W (5μs pulse width, 1.25% duty cycle)@40dB

[1] Derated linearly to 0.5W@125°C.

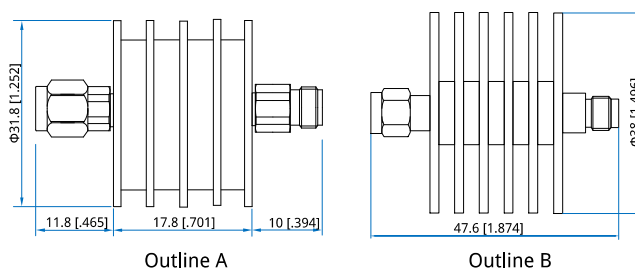
Mechanical

RF Connectors:	2.92mm
Housing:	Aluminum
Dielectric:	PEI
Outer Conductor:	Stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature: -55~+85°C

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)				VSWR (max.)
	1~10	20	30	40	
DC~40	-0.7/+1.0	-0.7/+1.0	-0.7/+1.0	-1.0/+2.0	1.25, 1.4@40dB

How To Order

NFA4010-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB (Outline A - 1~30dB, Outline B - 40dB)

Z: Connector type

Connector naming rules:

K - 2.92mm

Examples:

To order an attenuator, DC~40GHz, 2.92mm male to 2.92mm female, 3dB attenuation, specify NFA4010-40-3-K.

NFA4020

DC~40GHz, 20W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~40GHz
Attenuation:	3~10dB, 15dB, 20dB, 30dB, 40dB
Impedance:	50Ω
Average Power*1:	20W@25°C max.
Peak Power:	200W (5μS pulse width, 10% duty cycle)@3~30dB 200W (5μS pulse width, 5% duty cycle)@40dB

[1] Derated linearly to [0.5W@125°C.@40dB](#)

[2] Derated linearly to [2W@125°C.@3~30dB](#)

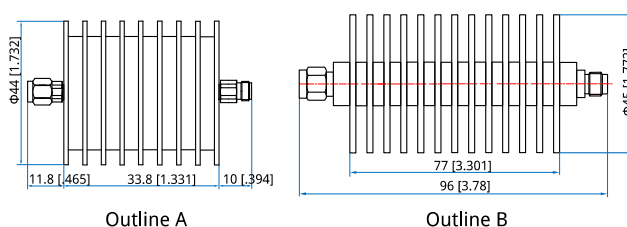
Mechanical

RF Connectors:	2.92mm
Housing:	Aluminum
Dielectric:	PEI
Outer Conductor:	Stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature: -55~+85°C

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)					VSWR (max.)
	3~10	15	20	30	40	
DC~40	-1.5/+1.5	-1.5/+1.5	-1.5/+1.5	-1.5/+1.5	-1.0/+2.0	1.3, 1.4@40dB

How To Order

NFA4020-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB (Outline A - 3~30dB, Outline B - 40dB)

Z: Connector type

Connector naming rules:

K - 2.92mm

Examples:

To order an attenuator, DC~40GHz, 2.92mm male to 2.92mm female, 3dB attenuation, specify NFA4020-40-3-K.

NFA4030

DC~40GHz, 30W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~40GHz
Attenuation:	10dB, 20dB, 30dB, 40dB
Impedance:	50Ω
Average Power*1:	30W@25°C max.
Peak Power:	200W (5μS pulse width, 10% duty cycle)

[1] Derated linearly to 3W@125°C.

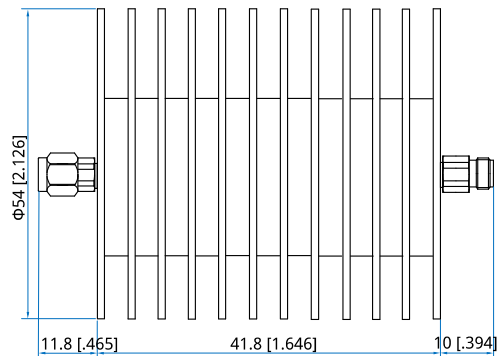
Mechanical

RF Connectors:	2.92mm
Housing:	Aluminum
Dielectric:	PEI
Outer Conductor:	Passivated stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature:	-55~+125°C
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Outline Drawings



Unit: mm [in]
Tolerance: $\pm 2\%$

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)				VSWR (max.)
	10	20	30	40	
DC~40	-1.5/+2.0	-1.5/+2.0	-1.5/+2.0	-1.5/+2.0	1.35

How To Order

NFA4030-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

K - 2.92mm

Examples:

To order an attenuator, DC~40GHz, 2.92mm male to 2.92mm female, 20dB attenuation, specify NFA4030-40-20-K.

NFA4050

DC~40GHz, 50W

- Features:

 - * Low VSWR
 - * High Attenuation Flatness
- Applications:

 - * Wireless
 - * Transmitter
 - * Laboratory Test
 - * Radar

Electrical

Frequency:	DC~40GHz
Attenuation:	20dB, 30dB, 40dB
Impedance:	50Ω
Average Power*1:	50W@25°C max.

[1] Derated linearly to 2.5W@120°C.

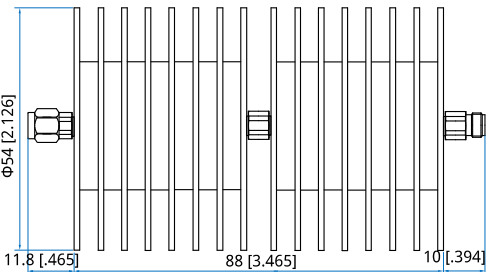
Mechanical

RF Connectors:	2.92mm
Housing:	Aluminum
Dielectric:	PEI
Outer Conductor:	Passivated stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature:	-55~+125°C
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Outline Drawings



Unit: mm [in]
Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)			VSWR (max.)
	20	30	40	
DC~40	-3.0/+3.0	-3.0/+3.0	-3.0/+3.0	1.35

How To Order

NFA4050-X-Y-Z

- X: Frequency in GHz
Y: Attenuation in dB
Z: Connector type

Connector naming rules:
K - 2.92mm

Examples:
To order an attenuator, DC~40GHz, 2.92mm male to 2.92mm female, 20dB attenuation, specify NFA4050-40-20-K.

NFA5002

DC~50GHz, 2W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~50GHz
Attenuation:	0~10, 12, 15, 20, 30, 40, 50dB
Impedance:	50Ω
Average Power*1:	2W@25°C max.
Peak Power:	200W (5μS pulse width, 1% duty cycle) @40, 50dB 20W (5μS pulse width, 1% duty cycle) @30dB

[1] Derated linearly to 0.2W@125°C.@40, 50dB

[2] Derated linearly to 0.5W@125°C.@30dB

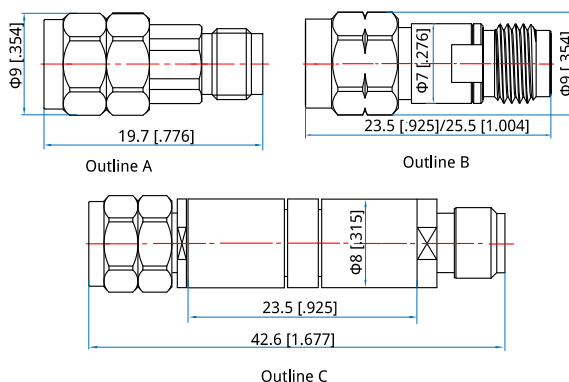
Mechanical

RF Connectors:	2.4mm
Dielectric:	PEI
Outer Conductor:	Passivated stainless steel/ Nickel plated brass
Male Inner Conductor:	Gold plated brass/Gold plated beryllium copper

Environmental

Temperature: -55~+125°C

Outline Drawings



Attenuation (dB)	Length (mm [in])
0~10, 12, 15, 20	23.5 [0.925]
30	19.7 [0.776]
40, 50	42.6 [1.677]

Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)								VSWR (max.)
	0	1~10	12	15	20	30	40	50	
DC~50	-0.2/+1.0	-1.0/+1.0	-1.0/+1.0	-1.0/+1.0	-1.0/+1.0	-1.0/+1.2	±1.5	±1.5	1.3@30dB, 1.4, 1.45@40dB, 50dB

How To Order

NFA5002-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

(Outline A - 30dB, Outline B - 0~10, 12, 15, 20dB, Outline B - 40, 50dB)

Z: Connector type

Connector naming rules:

2 - 2.4mm

Examples:

To order an attenuator, DC~50GHz, 2.4mm male to 2.4mm female, 20dB attenuation, specify NFA5002-50-20-2.

NFA5005

DC~50GHz, 5W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

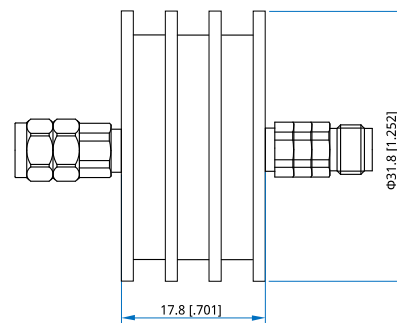
Frequency:	DC~50GHz
Attenuation:	1~10dB, 20dB, 30dB
Impedance:	50Ω
Average Power*1:	5W@25°C max.
Peak Power:	20W (5μS pulse width, 2.5% duty cycle)

[1] Derated linearly to 0.5W@125°C.

Mechanical

RF Connectors:	2.4mm
Housing:	Aluminum
Dielectric:	PEI
Outer Conductor:	Passivated stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Outline Drawings



Unit: mm [in]
Tolerance: ±2mm [±0.08in]

Environmental

Temperature: -55~+125°C

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)			VSWR (max.)
	1~10	20	30	
DC~50	-1.0/+1.2	-1.0/+1.2	-1.0/+1.2	1.3

How To Order

NFA5005-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

2 - 2.4mm

Examples:

To order an attenuator, DC~50GHz, 2.4mm male to 2.4mm female, 20dB attenuation, specify NFA5005-50-20-2.

NFA5010

DC~50GHz, 10W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

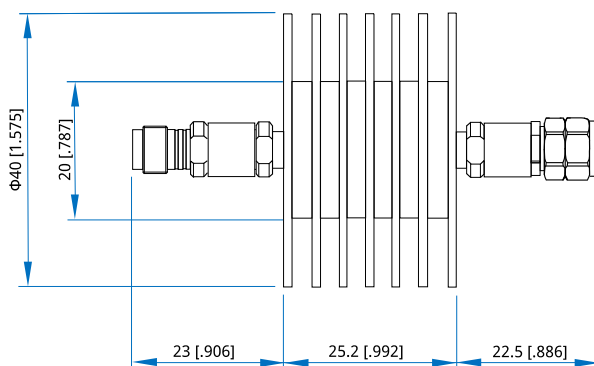
Frequency:	DC~50GHz
Attenuation:	1~10dB, 20dB, 30dB
Impedance:	50Ω
Average Power ¹ :	10W@25°C max.
Peak Power:	20W (5μS pulse width, 1% duty cycle)

[1] Derated linearly to 1W@125°C.

Mechanical

RF Connectors:	2.4mm
Connector Housing:	Passivated stainless steel
Heat Sinks Housing:	Aluminum black anodize
Dielectric:	PEI
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Outline Drawings



Unit: mm [in]

Tolerance: $\pm 2\text{mm}$ [$\pm 0.08\text{in}$]

Environmental

Temperature: -55~+125°C

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy ($\pm$ dB) vs. Attenuation (dB)			VSWR (max.)
	1~10	20	30	
DC~50	-1.5/+2.0	-1.5/+2.0	-1.5/+2.0	1.4

How To Order

NFA5010-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

2 - 2.4mm

Examples:

To order an attenuator, DC~50GHz, 2.4mm male to 2.4mm female, 20dB attenuation, specify NFA5010-50-20-2.

NFA6702

DC~67GHz, 2W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~67GHz
Attenuation:	1~10dB, 20dB, 30dB
Impedance:	50Ω
Average Power*1:	2W@25°C max.
Peak Power:	20W (5μS pulse width, 1% duty cycle)

[1] Derated linearly to 0.5W@125°C.

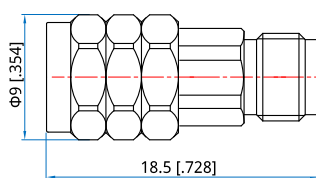
Mechanical

RF Connectors:	1.85mm
Dielectric:	PEI
Outer Conductor:	Passivated stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature: -55~+125°C

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)			VSWR (max.)
	1~10	20	30	
DC~67	-1.0/+1.2	-1.2/+1.2	-1.5/+1.5	1.35

How To Order

NFA6702-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

V - 1.85mm

Examples:

To order an attenuator, DC~67GHz, 1.85mm male to 1.85mm female, 20dB attenuation, specify NFA6702-67-20-V.

NFA6705

DC~67GHz, 5W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

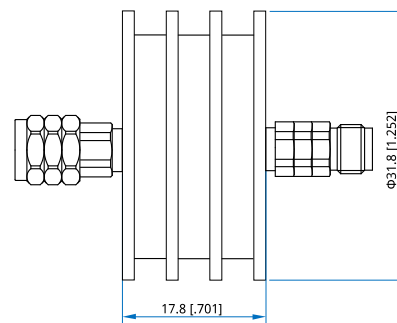
Frequency:	DC~67GHz
Attenuation:	1~10dB, 20dB, 30dB
Impedance:	50Ω
Average Power*1:	5W@25°C max.
Peak Power:	20W (5μS pulse width, 1% duty cycle)

[1] Derated linearly to 0.5W@125°C.

Mechanical

RF Connectors:	1.85mm
Housing:	Aluminum
Dielectric:	PEI
Outer Conductor:	Passivated stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Environmental

Temperature: -55~+125°C

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)			VSWR (max.)
	1~10	20	30	
DC~67	-1.0/+1.5	-1.2/+1.5	-1.5/+2.0	1.4

How To Order

NFA6705-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

V - 1.85mm

Examples:

To order an attenuator, DC~67GHz, 1.85mm male to 1.85mm female, 20dB attenuation, specify NFA6705-67-20-V.

NFA6710

DC~67GHz, 10W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~67GHz
Attenuation:	20dB
Impedance:	50Ω
Average Power*1:	10W@25°C max.
Peak Power:	20W (5μS pulse width, 1% duty cycle)

[1] Derated linearly to 0.5W@125°C.

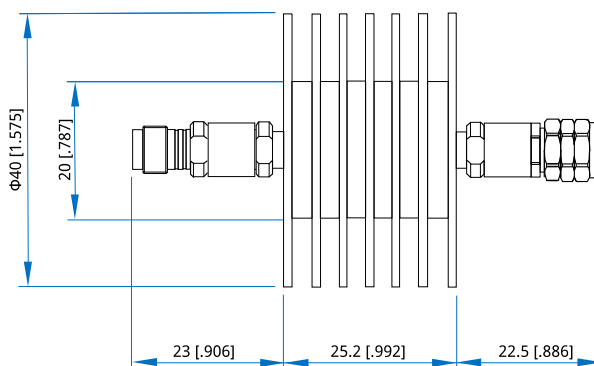
Mechanical

RF Connectors:	1.85mm
Housing:	Passivated stainless steel
Dielectric:	PEI
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Operating Temperature:	-55~+125°C
Non-Operating Temperature:	-55~+125°C

Outline Drawings



Unit: mm [in]

Tolerance: $\pm 2\text{mm}$ [$\pm 0.08\text{in}$]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy ($\pm\text{dB}$) vs. Attenuation (dB)	VSWR (max.)
	20	
DC~67	-1.5/+2.0	1.45

How To Order

NFA6710-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

V - 1.85mm

Examples:

To order an attenuator, DC~67GHz, 1.85mm male to 1.85mm female, 20dB attenuation, specify NFA6710-67-20-V.

Customization is available upon request.

NFA11001

DC~110GHz, 1W

Features:

- * Low VSWR
- * High Attenuation Flatness

Applications:

- * Wireless
- * Transmitter
- * Laboratory Test
- * Radar

Electrical

Frequency:	DC~110GHz
Attenuation:	3dB, 6dB, 10dB
Impedance:	50Ω
Average Power*1:	1W@25°C max.
Peak Power:	5W (5μS pulse width, 10% duty cycle)

[1] Derated linearly to 0.1W@125°C.

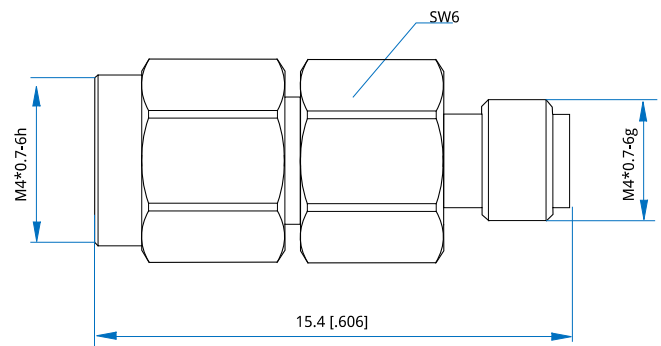
Mechanical

RF Connectors:	1.0mm
Dielectric:	PEI
Outer Conductor:	Passivated stainless steel
Male Inner Conductor:	Gold plated brass
Female Inner Conductor:	Gold plated beryllium copper

Environmental

Temperature: -55~+125°C

Outline Drawings



Unit: mm [in]

Tolerance: ±2mm [±0.08in]

Attenuation Accuracy and VSWR

Frequency (GHz)	Attenuation Accuracy (±dB) vs. Attenuation (dB)			VSWR (max.)
	3	6	10	
DC~110	-1.0/+2.0	-1.0/+2.0	-1.0/+2.0	1.6

How To Order

NFA11001-X-Y-Z

X: Frequency in GHz

Y: Attenuation in dB

Z: Connector type

Connector naming rules:

1 - 1.0mm

Examples:

To order an attenuator, DC~110GHz, 1.0mm male to 1.0mm female, 10dB attenuation, specify NFA11001-110-10-1