



BROADBAND CONICAL INDUCTORS



Flying Leads Surface Mount Leads
40MHz to 50+GHz Operation
Current Ratings now up to 10 Amps
<1% TML per ASTM E595 Outgassing Tested

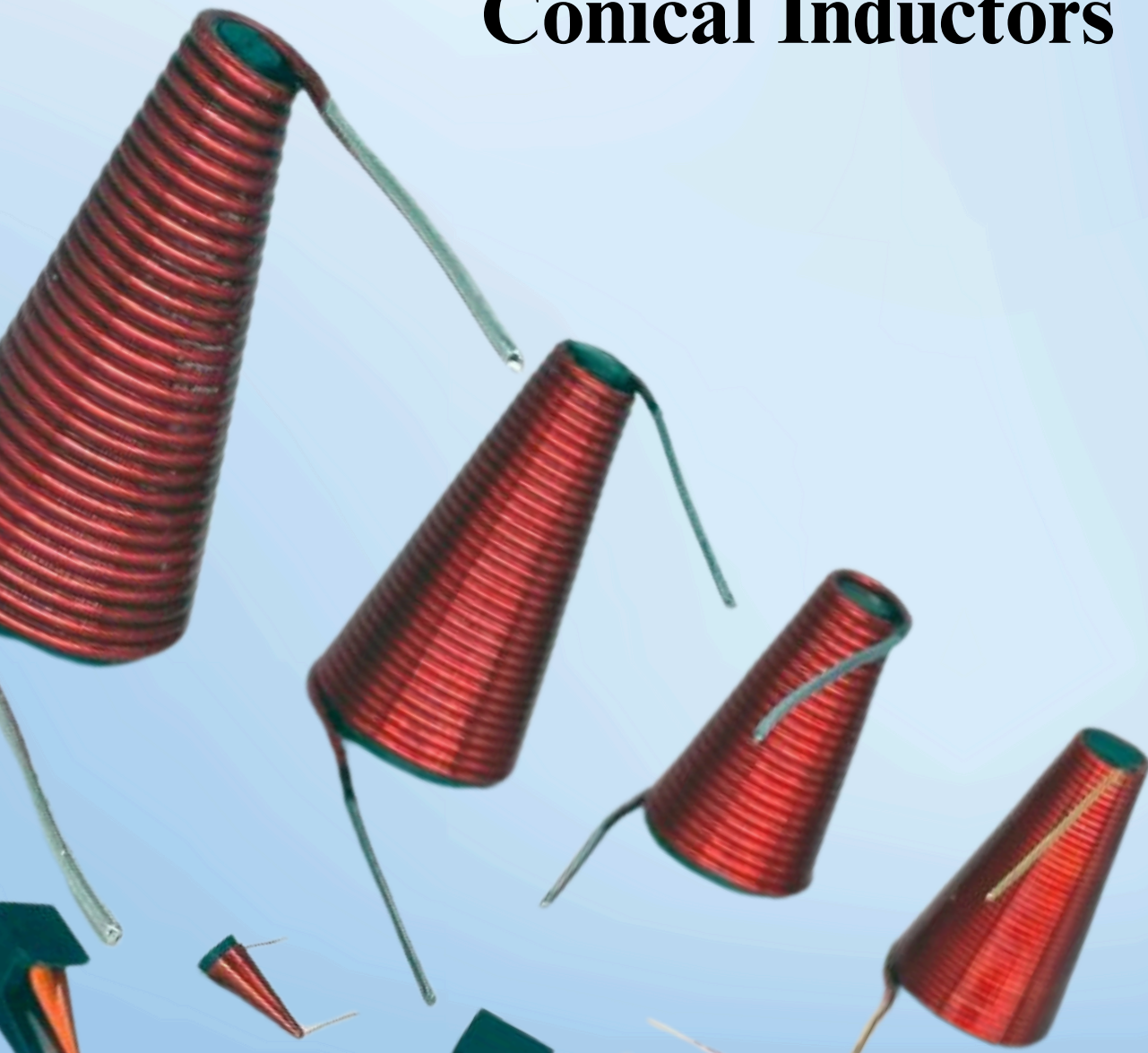
Broadband Conical Inductors

PPI's Broadband products include a range of high-performance inductors designed for RF and microwave applications. Ideal for communication systems, RF test setups, and other demanding electronic applications, these new conical inductors, available in standard and custom options in various configurations, boast excellent construction to assure predictable frequency response and repeatable RF performance while delivering excellent performance from 40 MHz to 110 GHz.

Designed for High Frequency applications where ultra-low insertion loss & return loss are design requirements, our Flying Lead (thru-hole) and Surface Mount Broadband Conical Inductors assure predictable frequency response and repeatable performance from 40 MHz to 50+GHz with current ratings up to 10 Amps and $<1\%$ TML & <0.10 CVCM per ASTM E595 outgassing test. Their unique construction helps to limit the effects caused by stray capacitance. Reliability to M83446D, upscreening capability to MIL-STD-981, unique footprints and both standard & custom design options enhance utility.



Flying Leads Conical Inductors



Flying Lead Broadband Conical Inductors: with up to 10 Amps of DC current handling - the highest level in the industry - and low insertion loss. Designed for high-performance applications in RF and microwave environments. These inductors are particularly well-suited for communication systems, bias T's, and filtering applications, where they help to manage signal integrity and reduce noise and utilized in communication applications for bias T's (filter signals, remove noise), broadband chip manufacturing, communication platforms, high frequency, microwave circuitry, RF test set-ups, test & measurement, test gear, test instrumentation and transmission amplifiers.

- Flying leads allow precise positioning and adjustment of the mounting angle
- High Performance: Designed for RF applications with low insertion loss and high Q factors
- Versatile Applications: Suitable for communication systems, bias T's, and other demanding electronic applications.
- These inductors feature a unique conical shape that minimizes stray capacitance and allows for high impedance across a wide bandwidth, making them effective in filtering unwanted frequencies.

The PPI-050FL series features Flying Lead Conical Inductors with an inductance range of 0.28 μH to 0.47 μH and a DCR between 0.45 and 0.87 ohms. These inductors are rated for a maximum current of 275 to 280 mA DC, making them suitable for high-frequency applications in RF circuits.



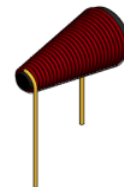
Broadband Conical Flying Lead Inductor

PPI-050FL Series

PART SPECIFICATIONS

Part Number	L μ H @ 10 MHz	DCR Ω NOM	Current Rating mA DC	Upper Frequency Limit GHz	Turns	Wire Size AWG
POWDERED IRON CORE						
PPI-050FL-0R28-280-G6	0.28	0.45	280	110*	21	44
PPI-050FL-0R47-275-G6	0.47	0.87	275	110*	29	47

*based on substrate

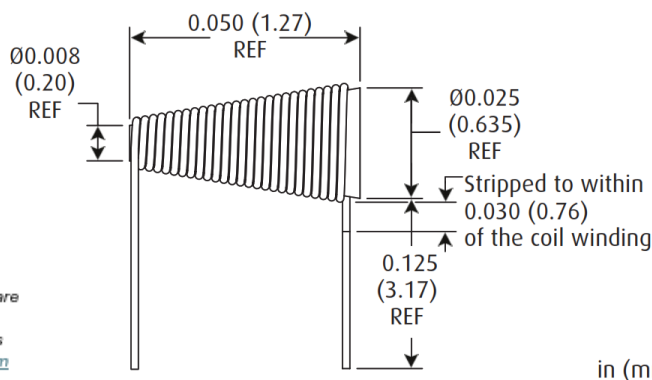
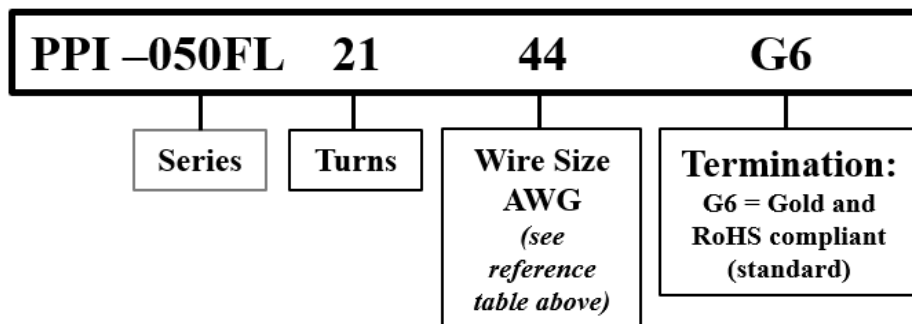


PRODUCT FEATURES

Operating Temperature Range	-55°C to + 125°C	Current Rating	Based on a 35°C temperature rise at an ambient temperatures of 90°C
Wire Type	Copper	Weight MAX	0.004 grams

- All non-tolerance and electrical data are reference only and based on nominal data
- Materials are fungus-inert to meet method 508 of MIL-STD-810H
- Meets a TML (Total Mass Loss) requirement of 1.0% maximum when tested in accordance with ASTM E595; this calculation does not include WVR (Water Vapor Recovered)
- Custom designs are available. Please contact factory

PART NUMBER



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in (mm)



Broadband Conical Flying Lead Inductor

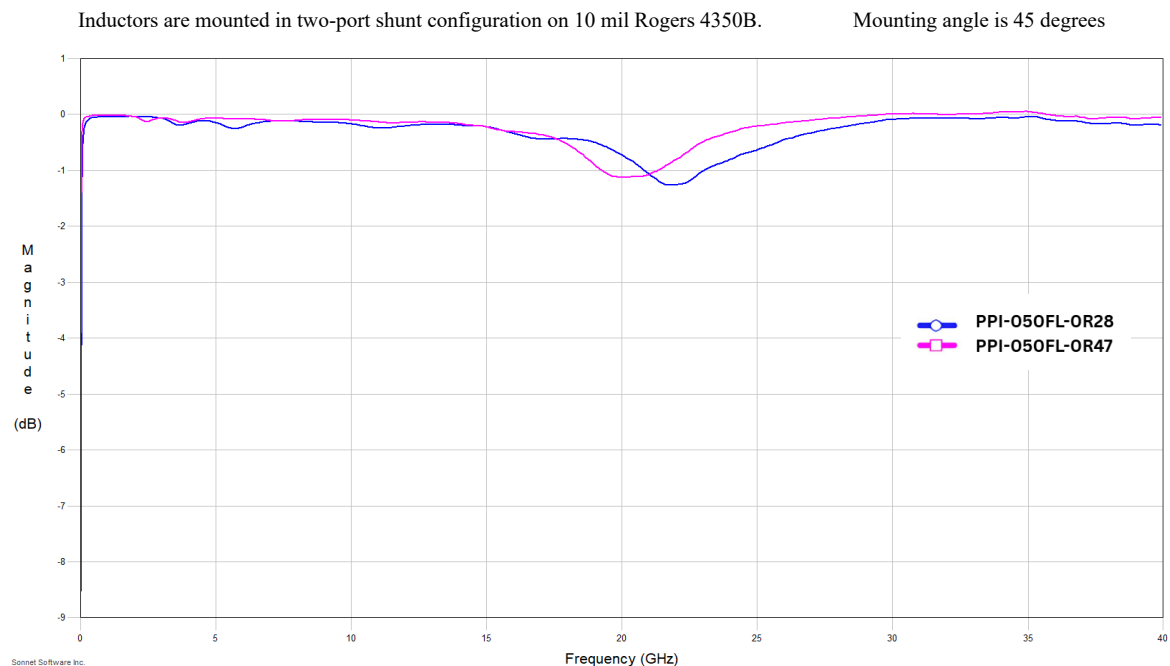
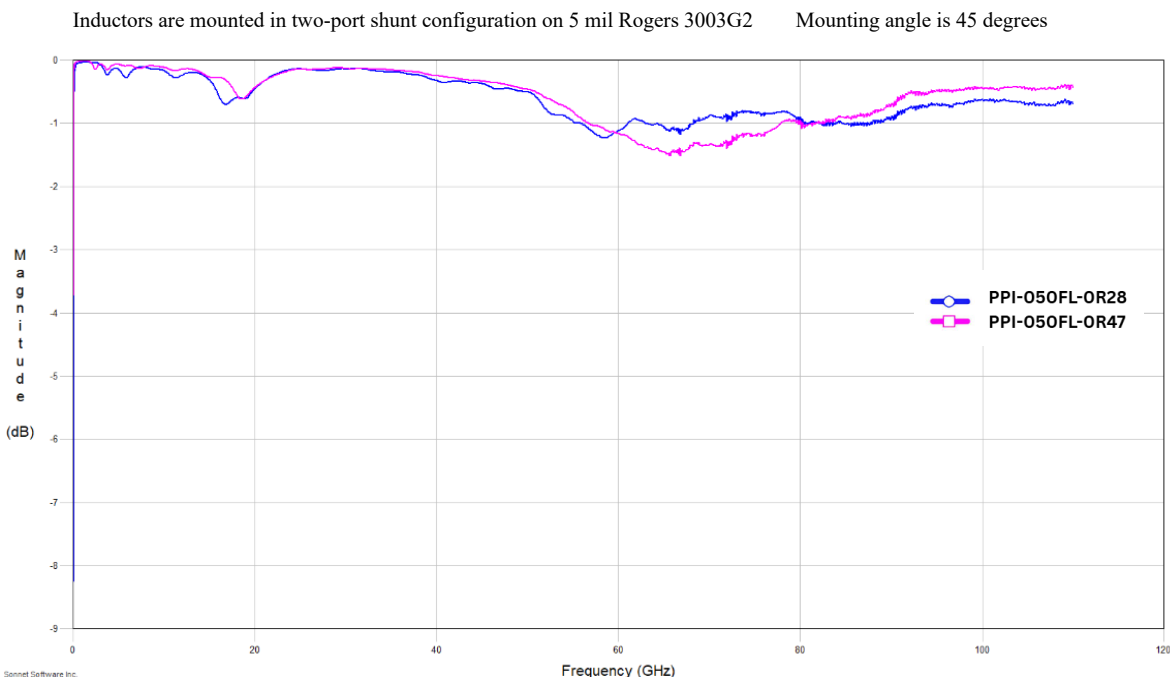
PPI-050FL Series



INSERTION LOSS



Mounting angles (typ 45-60 deg)





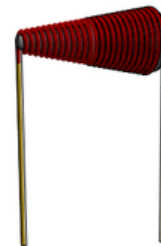
Broadband Conical Flying Lead Inductor

PPI-070FL Series

PART SPECIFICATIONS

Part Number	L μ H @ 10 MHz	DCR Ω NOM	Current Rating mA DC	Upper Frequency Limit GHz	Turns	Wire Size AWG
POWDERED IRON CORE						
PPI-070FL-0R165-625-G6	0.165	0.080	625	110*	15	38
PPI-070FL-0R265-425-G6	0.265	0.170	425	110*	20	40
PPI-070FL-0R390-340-G6	0.390	0.280	340	110*	25	42
PPI-070FL-0R550-235-G6	0.550	0.600	235	110*	30	44
PPI-070FL-0R700-190-G6	0.700	0.820	190	110*	34	45
PPI-070FL-0R800-175-G6	0.800	1.00	175	110*	38	46
PPI-070FL-1R050-150-G6	1.050	1.50	150	110*	43	47

*based on substrate



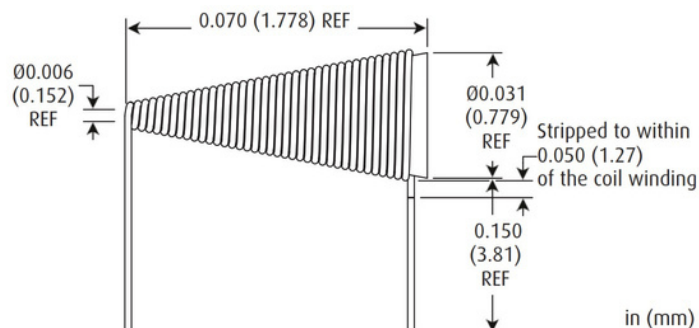
PRODUCT FEATURES

Operating Temperature Range	-55°C to +125°C	Current Rating	Based on a 35°C temperature rise at an ambient temperature of 90°C
Wire Type	Copper	Weight MAX	0.0069 grams

- All non-tolerance and electrical data are reference only and based on nominal data
- Materials are fungus-inert to meet method 508 of MIL-STD-810H
- Meets a TML (Total Mass Loss) requirement of 1.0% maximum when tested in accordance with ASTM E595; this calculation does not include WVR (Water Vapor Recovered)
- Custom designs are available. Please contact PPI.

PART NUMBER

PPI – 070FL – 0R165 – 625 – G6			
Series	Inductance	Current Rating (mA DC)	Termination G6 = Gold and RoHS compliant (standard)



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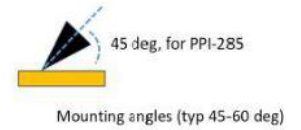


Broadband Conical Flying Lead Inductor

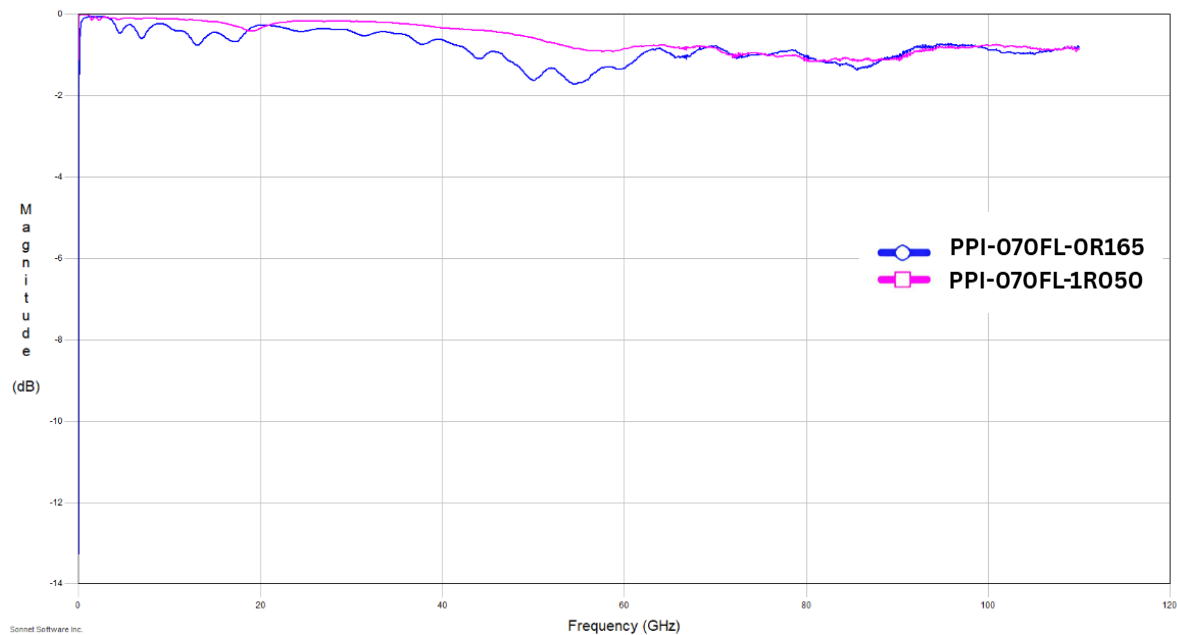
PPI-070FL Series



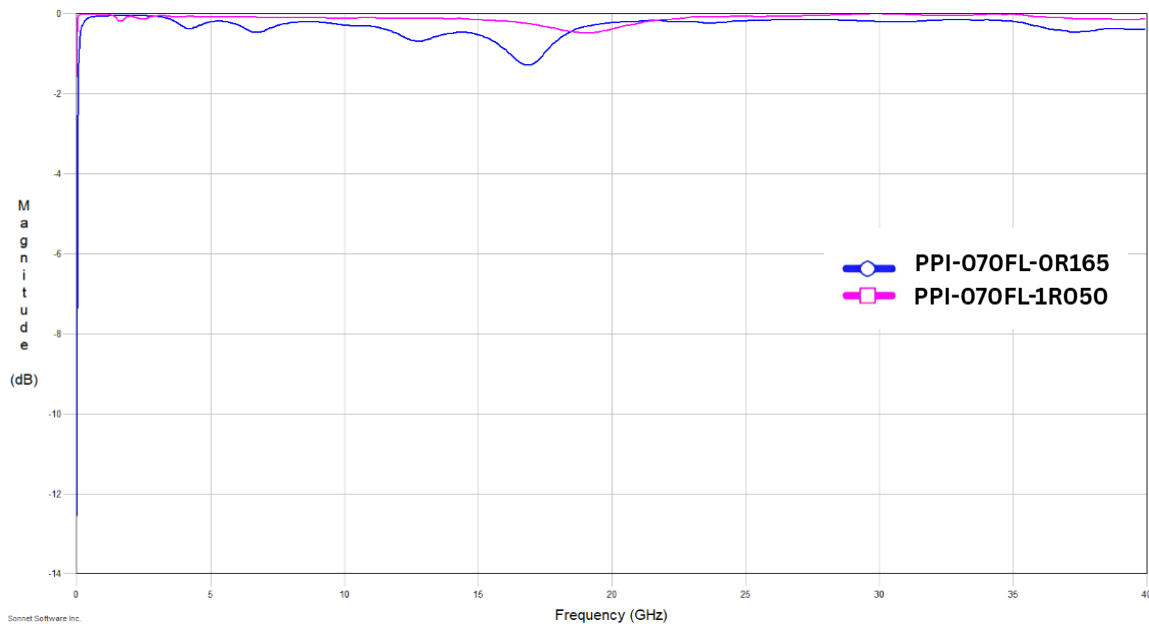
INSERTION LOSS



Inductors are mounted in two-port shunt configuration on 5 mil Rogers 3003G2. Mounting angle is 45 degrees.



Inductors are mounted in two-port shunt configuration on 10 mil Rogers 4350B. Mounting angle is 45 degrees.





Broadband Conical Flying Lead Inductor

PPI-100FL Series

PART SPECIFICATIONS

Part Number	L μ H @ 10 MHz	DCR Ω NOM	Current Rating mA DC	Upper Frequency Limit GHz	Turns	Wire Size AWG
POWDERED IRON CORE						
PPI-100FL-0R26-573-G6	0.26	0.10	573	110*	19	38
PPI-100FL-0R37-396-G6	0.37	0.21	396	110*	25	40
PPI-100FL-0R58-264-G6	0.58	0.47	264	110*	31	42
PPI-100FL-1R00-211-G6	1.00	0.74	211	110*	39	44
PPI-100FL-1R54-140-G6	1.54	1.70	140	110*	49	47

*based on substrate



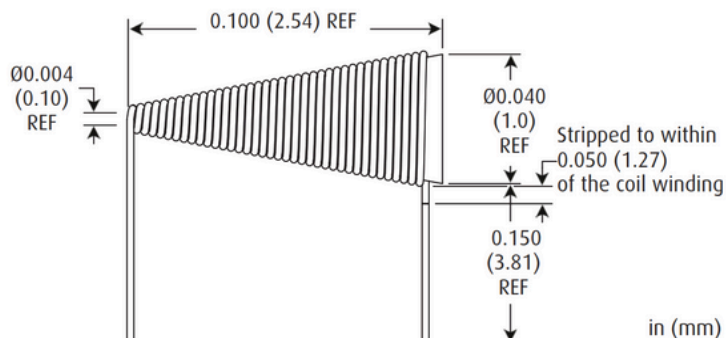
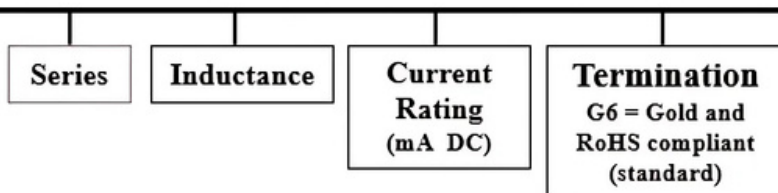
PRODUCT FEATURES

Operating Temperature Range	-55°C to +125°C	Current Rating	Based on a 35°C temperature rise at an ambient temperatures of 90°C
Wire Type	Copper	Weight MAX	0.0069 grams

- All non-tolerance and electrical data are reference only and based on nominal data
- Materials are fungus-inert to meet method 508 of MIL-STD-810H
- Meets a TML (Total Mass Loss) requirement of 1.0% maximum when tested in accordance with ASTM E595; this calculation does not include WVR (Water Vapor Recovered)
- Custom designs are available. Please contact PPI.

PART NUMBER

PPI – 100FL 0R26 – 573 – G6



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Broadband Conical Flying Lead Inductor

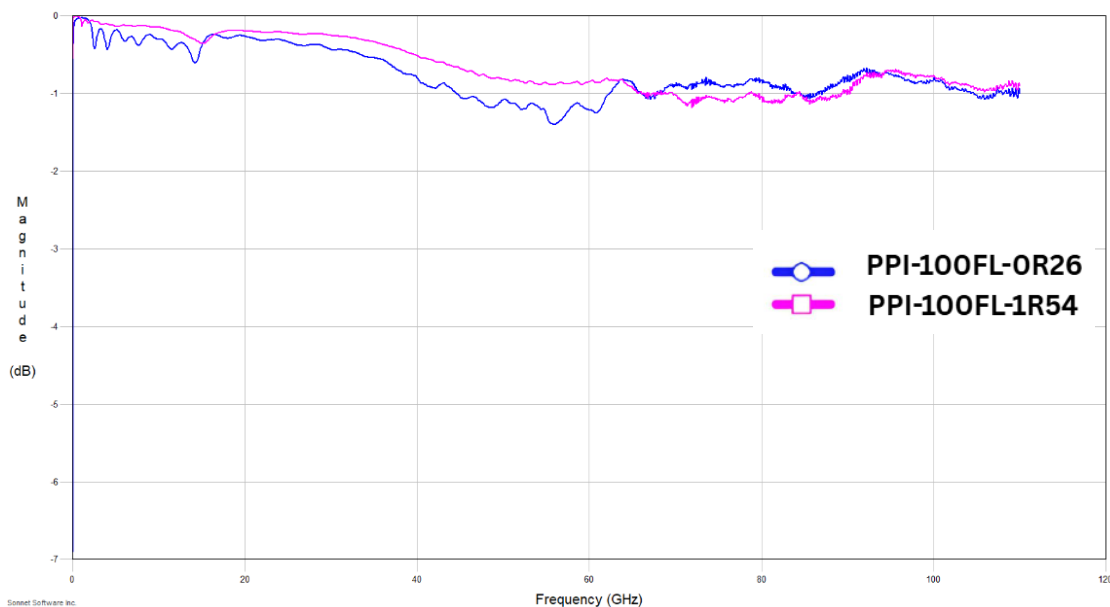
PPI-100FL Series



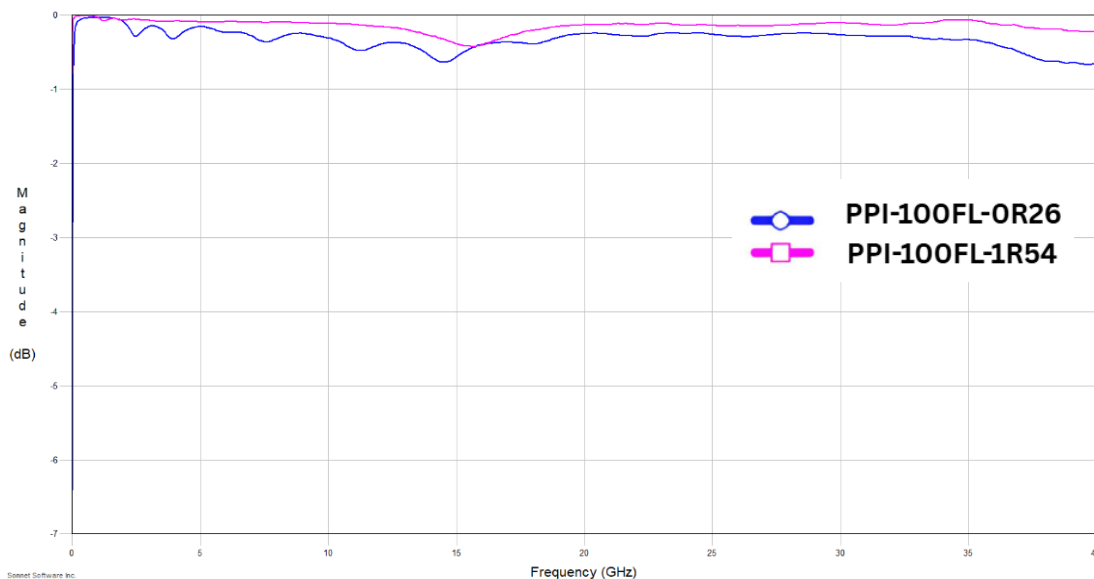
INSERTION LOSS



Inductors are mounted in two-port shunt configuration on 5 mil Rogers 3003G2. Mounting angle is 45 degrees.



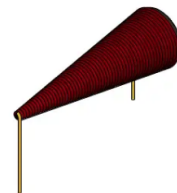
Inductors are mounted in two-port shunt configuration on 10 mil Rogers 4350B. Mounting angle is 45 degrees.





Broadband Conical Flying Lead Inductor PPI-225FL Series

PART SPECIFICATIONS



Part Number	L μ H @ 10 MHz	DCR Ω NOM	Current Rating mA DC	Upper Frequency Limit GHz	Turns	Wire Size AWG
POWDERED IRON CORE						
PPI-225FL-0R60-562-G6	0.60	0.16	562	40	29	35
PPI-225FL-0R89-360-G6	0.89	0.39	360	40	35	36
PPI-225FL-1R30-328-G6	1.30	0.47	328	40	43	38
PPI-225FL-2R40-251-G6	2.40	0.80	251	40	57	40
PPI-225FL-3R80-184-G6	3.80	1.50	184	40	70	42
PPI-225FL-5R10-139-G6	5.10	2.60	139	40	85	44
PPI-225FL-8R00-89-G6	8.00	6.40	89	40	110	47

PRODUCT FEATURES

Operating Temperature Range	-55°C to +125°C	Current Rating	Based on a 35°C temperature rise at an ambient temperature of 90°C
Wire Type	Copper	Weight MAX	0.0289 grams

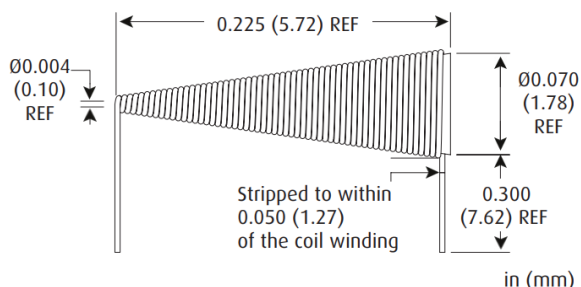
- All non-tolerance and electrical data are reference only and based on nominal data
- Materials are fungus-inert to meet method 508 of MIL-STD-810H
- Meets a TML (Total Mass Loss) requirement of 1.0% maximum when tested in accordance with ASTM E595; this calculation does not include WVR (Water Vapor Recovered)
- Custom designs are available. Please contact PPI.

PART NUMBER

PPI – 225FL – 0R60 – 562 – G6



Series	Inductance	Current Rating (mA DC)	Termination G6 = Gold and RoHS compliant (standard)
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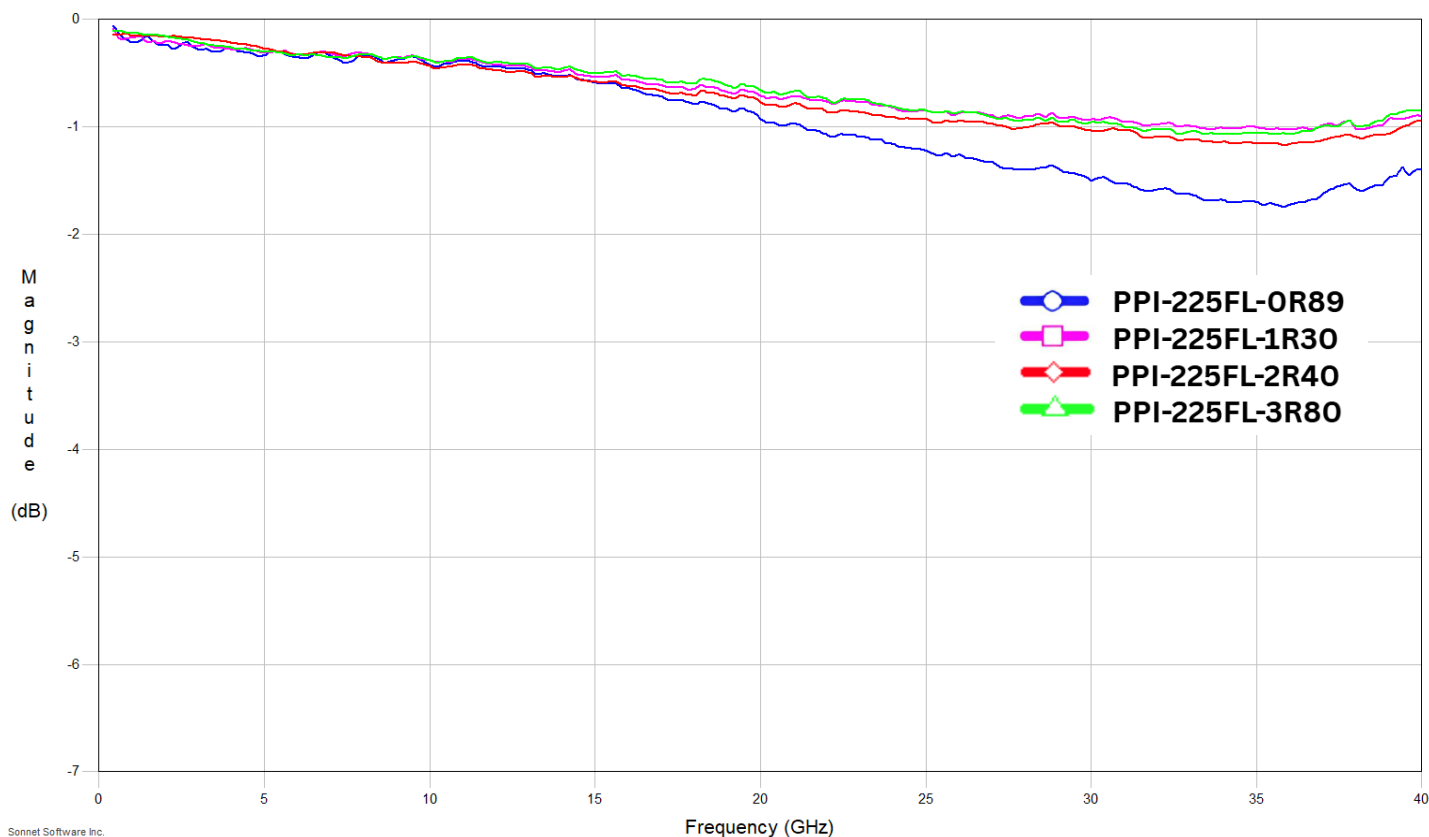
Broadband Conical Flying Lead Inductor

PPI-225FL Series

INSERTION LOSS



Inductors are mounted in two-port shunt configuration on 5 mil thick Alumina substrate. Mounting angle is 35 degrees.



Surface Mount Conical Inductors

PPI's Surface Mount Conical Inductors are designed for high-frequency applications, offering low insertion loss and High-Q factors. These robust components are ideal for communication systems, RF test setups, and other demanding electronic applications.

- **Surface-Mount Configuration:** Designed for high-frequency SMT applications.
- **High Performance:** Designed for RF applications with low insertion loss and high Q factors
- **Applications:** RF test, transmission amplifiers, aerospace, and defense.

The PPI-070SM series comprises surface-mount conical inductors optimized for Broadband applications, featuring High-Q factors, low insertion loss, and stable inductance over a wide frequency range. These components are engineered to meet the stringent requirements of high-frequency circuits in military, aerospace, and commercial communication systems, ensuring reliable performance in demanding environments.

The PPI-100SMNL series consists of surface-mount conical inductors designed for Broadband applications, featuring low profile designs, High-Q factors, and stable inductance across a wide frequency range. These inductors are optimized for use in high-frequency circuits, including RF test and measurement, transmission amplifiers, and critical aerospace and defense systems, ensuring reliable performance in demanding environments.



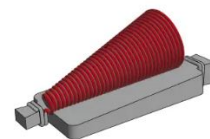
Broadband Conical Surface Mount Inductor

PPI-070SM Series

PART SPECIFICATIONS

Part Number	L μ H @ 10 MHz	DCR Ω NOM	Current Rating mA DC	Upper Frequency Limit GHz	Turns	Wire Size AWG
POWDERED IRON CORE						
PPI-070SM-0R165-625-G6	0.165	0.080	625	50	15	38
PPI-070SM-0R265-425-G6	0.265	0.170	425	50	20	40
PPI-070SM-0R390-340-G6	0.390	0.280	340	50	25	42
PPI-070SM-0R550-235-G6	0.550	0.600	235	50	30	44
PPI-070SM-0R700-190-G6	0.700	0.820	190	50	34	45
PPI-070SM-0R800-175-G6	0.800	1.00	175	50	38	46
PPI-070SM-1R050-150-G6	1.050	1.50	150	50	43	47

*based on substrate



PRODUCT FEATURES

Operating Temperature Range	-55°C to + 125°C	Current Rating	Based on a 35°C temperature rise at an ambient temperature of 90°C
Wire Type	Copper	Weight MAX	0.010 grams

- All non-tolerance and electrical data are reference only and based on nominal data
- Terminal is elongated to allow for soldering close to the tip of the coil
- Recommended that component is epoxied to substrate before reflow soldering
- Materials are fungus-inert to meet method 508 of MIL-STD-810H
- Meets a TML (Total Mass Loss) requirement of 1.0% maximum when tested in accordance with ASTM E595; this calculation does not include WVR (Water Vapor Recovered)
- Custom designs are available. Please contact PPI.

PART NUMBER

PPI – 070SM – 0R265 – 425 – G6



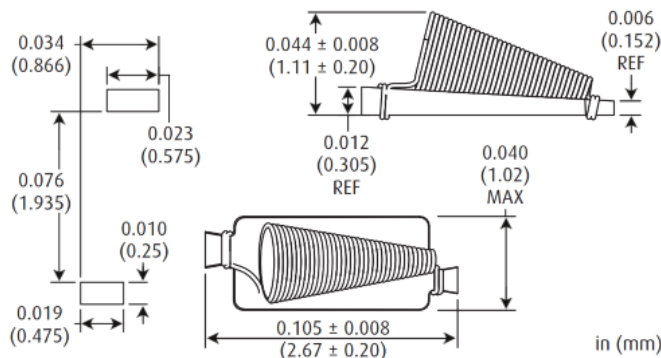
Series

Inductance

Current
Rating
(mA DC)

Termination
G6 = Gold and
RoHS compliant
(standard)

RECOMMENDED FOOT PRINT



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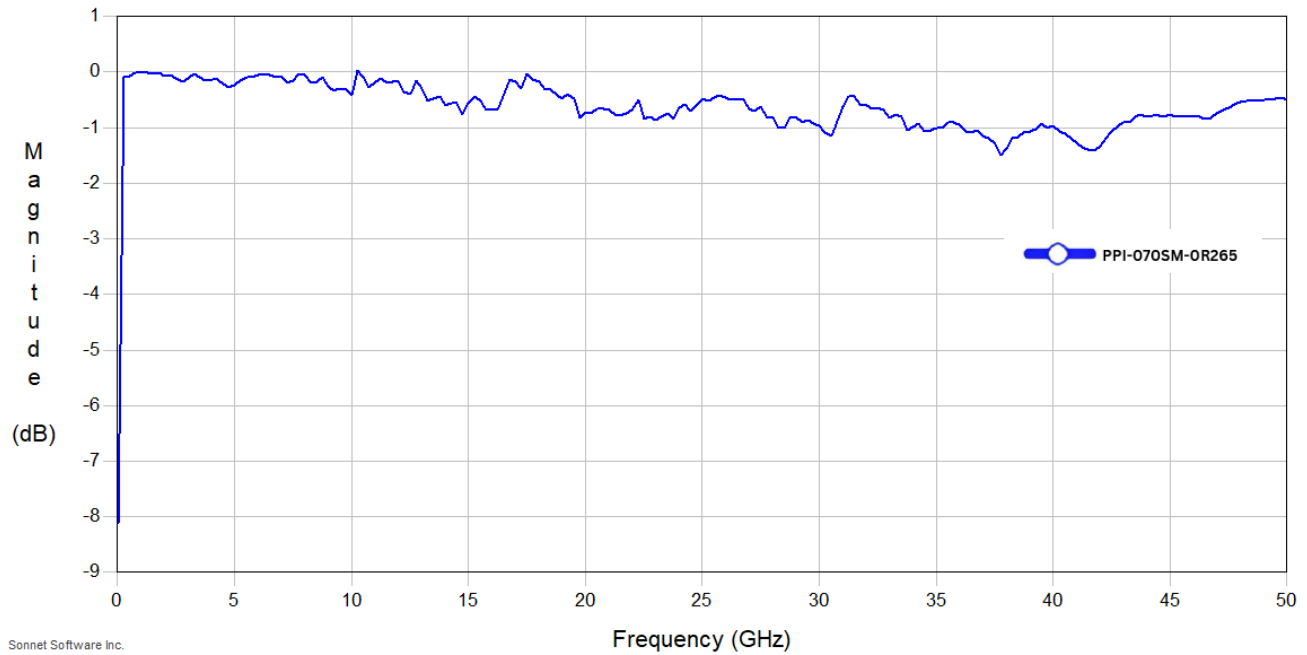
in (mm)



Broadband Conical
Surface Mount Inductor
PPI-070SM Series



INSERTION LOSS



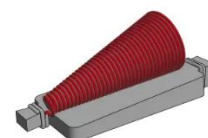


Broadband Conical Surface Mount Inductor

PPI-100SM Series

PART SPECIFICATIONS

Part Number	L μ H @ 10 MHz	DCR Ω NOM	Current Rating mA DC	Upper Frequency Limit GHz	Turns	Wire Size AWG
POWDERED IRON CORE						
PPI-100SMNL-0R20-655-G6	0.20	0.10	655	40	19	38
PPI-100SMNR-0R20-655-G6						
PPI-100SMNL-0R44-452-G6	0.44	0.21	452	40	25	40
PPI-100SMNR-0R44-452-G6						
PPI-100SMNL-0R58-302-G6	0.58	0.47	302	40	31	42
PPI-100SMNR-0R58-302-G6						
PPI-100SMNL-1R00-241-G6	1.00	0.74	241	40	39	44
PPI-100SMNR-1R00-241-G6						
PPI-100SMNL-1R54-140-G6	1.54	0.74	241	40	49	47
PPI-100SMNR-1R54-140-G6						



PRODUCT FEATURES

Operating Temperature Range	-55°C to +125°C	Current Rating	Based on a 35°C temperature rise at an ambient temperature of 90°C
Wire Type	Copper	Weight MAX	0.0135 grams

- All non-tolerance and electrical data are reference only and based on nominal data
- Terminal is elongated to allow for soldering close to the tip of the coil
- Recommended that component is epoxied to substrate before reflow soldering
- Materials are fungus-inert to meet method 508 of MIL-STD-810H
- Meets a TML (Total Mass Loss) requirement of 1.0% maximum when tested in accordance with ASTM E595; this calculation does not include WVR (Water Vapor Recovered)
- Custom designs are available. Please contact PPI.

PART NUMBER

PPI – 100SMNL – 0R20 – 655 – G6

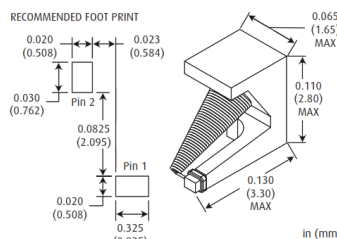
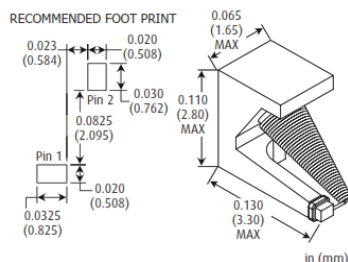


Series

Inductance

**Current
Rating
(mA DC)**

**Termination
G6 = Gold and
RoHS compliant
(standard)**



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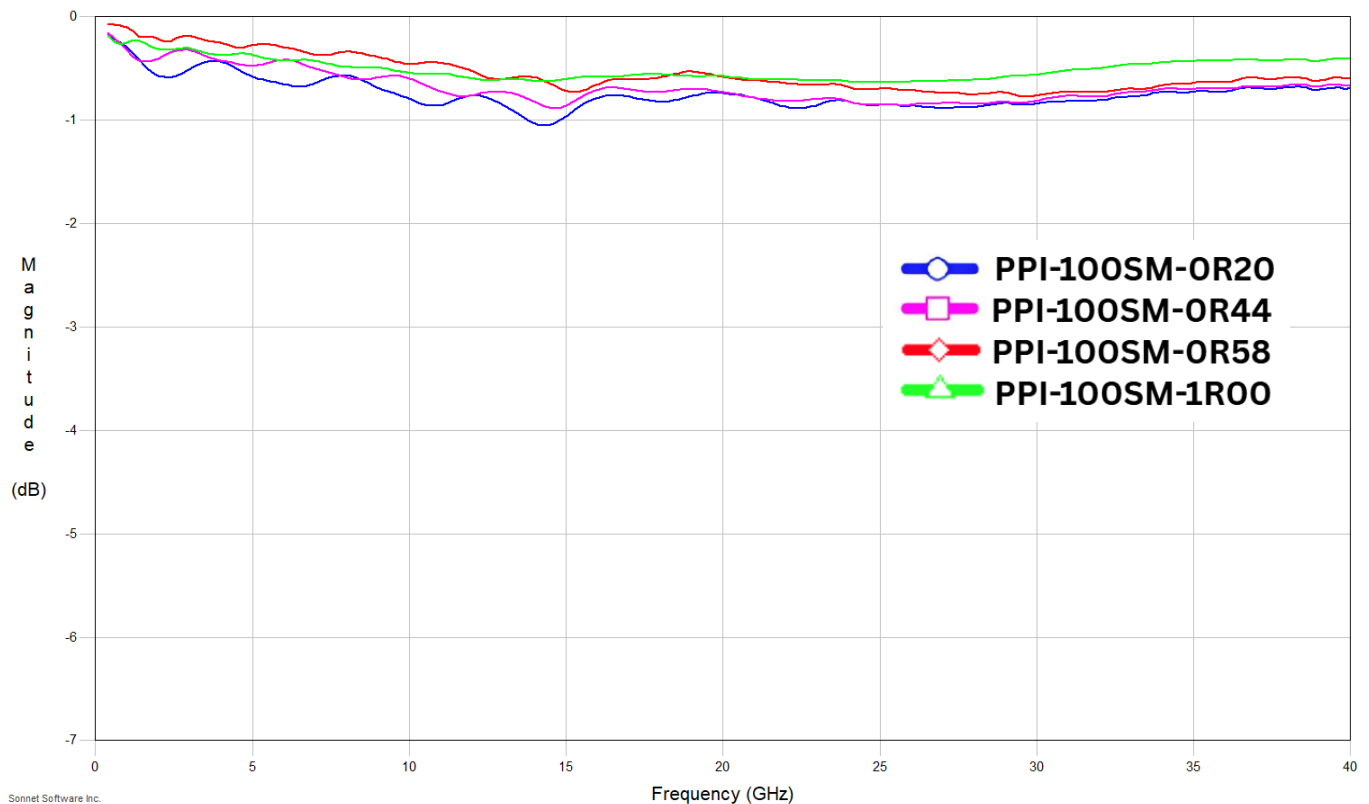
Broadband Conical Surface Mount Inductor

PPI-100SM Series



INSERTION LOSS

Inductors are mounted in two-port shunt configuration on 5 mil thick Alumina substrate.



Sonnet Software Inc.



Passive Plus, LLC Headquarters: 48 Elm Street, Huntington, NY USA

August 2025