

PA&E specializes in the design, manufacture and laser weld installation of ultra-rugged hermetic connectors into lightweight housing materials.

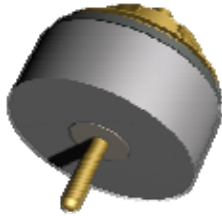
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PA&E's RF/Microwave connectors come in a variety of configurations.

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**Designed for military and commercial use where upper frequency, microwave applications are necessary. PA&E's hermetic 50 Ohm RF/Microwave connectors provide excellent electrical and environmental performance characteristics.**



## RF/Microwave Flange Mount Connectors

PA&E's 50 Ohm flange mount connectors are compatible with lightweight materials such as aluminum and titanium, as well as conventional iron/nickel alloys. These connectors are available for both laser-weld and solder-in applications. Our flange mount connectors are manufactured in accordance with MIL-STD-348.

PART NUMBER	DESCRIPTION
PAE-RF Series 100	RF Connector, 50 Ohm Flange Mount
PAE-RF Series 150	RF Connector, 50 Ohm Flange Mount, <b>High Performance (over 20 GHz)</b>

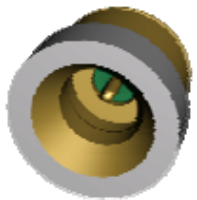
Specifications: See chart on opposite page.



LWP®

## RF/Microwave Push-On Connectors

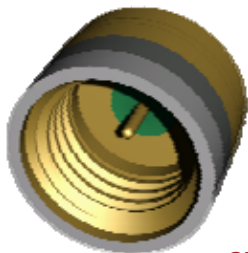
PA&E's 50 Ohm push-on connectors are compatible with lightweight materials such as aluminum and titanium, as well as conventional iron/nickel alloys. These connectors are available for both laser-weld and solder-in applications. We offer a standard laser-weld option (LWP®), a miniature version (LLWP®), a standard solder mount option (SMP) and a miniature version (SSMP). Our push-on connectors are manufactured in accordance with MIL-STD-348. Connector interfaces are equivalent to GPO/GPPPO.



LLWP®

PART NUMBER	DESCRIPTION
PAE-RF Series 200	RF Connector, 50 Ohm LWP® (Laser Weld Push-On)
PAE-RF Series 250	RF Connector, 50 Ohm LWP®, <b>High Performance (over 20 GHz)</b>
PAE-RF Series 300	RF Connector, 50 Ohm LLWP®, (Little Laser Weld Push-On)
PAE-RF Series 350	RF Connector, 50 Ohm LLWP®, <b>High Performance (over 20 GHz)</b>
PAE-RF Series 400	RF Connector, 50 Ohm SMP (Solder Mount Push-On)
PAE-RF Series 450	RF Connector, 50 Ohm SMP, <b>High Performance (over 20 GHz)</b>
PAE-RF Series 500	RF Connector, 50 Ohm SSMP (Small Solder Mount Push-On)
PAE-RF Series 550	RF Connector, 50 Ohm SSMP, <b>High Performance (over 20 GHz)</b>

Specifications: See chart on opposite page.



SMA

## RF/Microwave Thread-In Connectors

PAE's 50 Ohm thread-in connectors are compatible with lightweight materials such as aluminum and titanium, as well as conventional iron/nickel alloys. These connectors are available for both laser-weld and solder-in applications. We offer a standard option (SMA) and a miniature version (SSMA) with a thread size of 1/4-36 UNS-2B. Our thread-in connectors are manufactured in accordance with MIL-STD-348.

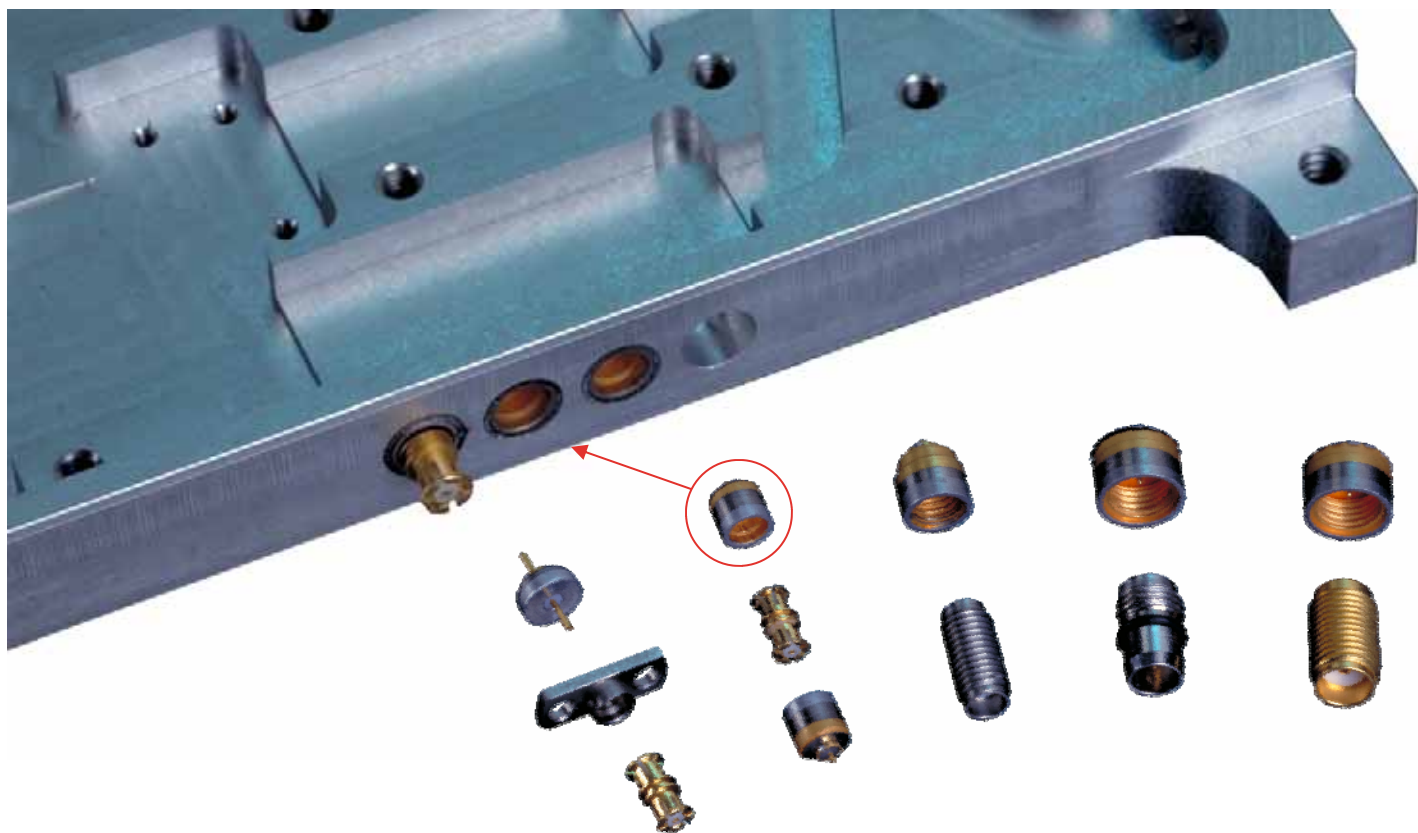
PART NUMBER	DESCRIPTION
PAE-RF Series 600	RF Connector, 50 Ohm SMA (Thread-In)
PAE-RF Series 650	RF Connector, 50 Ohm SMA, <b>High Performance (over 20 GHz)</b>
PAE-RF Series 700	RF Connector, 50 Ohm SSMA (Small Thread-In)
PAE-RF Series 750	RF Connector, 50 Ohm SSMA, <b>High Performance (over 20 GHz)</b>

Specifications: See chart on opposite page.



SSMA

# Laser Welding Eliminates Solder Joint Fatigue ... Forever!

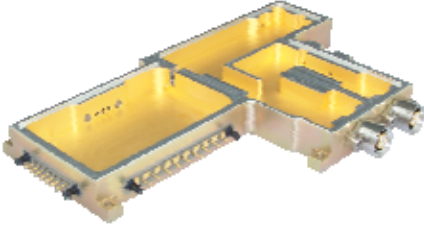


**Specifications and testing configurations:**

PERFORMANCE CONFIGURATIONS		FLANGE MOUNT	PUSH-ON				THREAD-IN	
			LWP®	LLWP®	SMP	SSMP	SMA	SSMA
SPECIFICATIONS	MATERIAL COMPATIBILITY	Designed for Aluminum, Titanium or Iron/Nickel Alloy applications						
	CONTACT MATERIAL	Iron/Nickel Alloys						
	SHELL FINISH OPTIONS	Passivated, Nickel/Gold Plated or Chromate Conversion Coated as applicable						
	CONTACT FINISH	Nickel/Gold Plating						
	PIN DIAMETER OPTIONS	.012", .015", .018", .020" and Custom						
	INTERFACE	Per MIL-STD-348						
	NOMINAL IMPEDANCE	50 Ohms						
PERFORMANCE	LEAK RATE	Less than 1X10 <sup>-9</sup> cc/sec Helium at 1 atmospheric differential pressure						
	INSULATION RESISTANCE	Connectors provide greater than 5,000 Megohms at 500 VDC when tested in IAW MIL-STD-1344, Method 3003						
	DIELECTRIC WITHSTANDING VOLTAGE	Connectors exhibit no evidence of breakdown or flashover when tested in IAW MIL-STD-1344, Method 3003						
	CORROSION	Connectors meet salt spray test in IAW MIL-STD-1344, Method 3003						
	OPERATING TEMPERATURE	-65°C to 200°C						

# Hermetics For Extreme Environments

## Integrated Packaging



Using technologies such as Kryoflex<sup>®</sup> and explosively bonded metals, PA&E designs and manufactures hermetic packaging for extreme environments — whether it's integrating components that protect satellites deep in space or connectors for oil-drilling tools that bore deep below the earth's surface. By pairing our Kryoflex<sup>®</sup> and explosively bonded metal technologies, we can build hermetic packages using precision laser welding rather than solder joints, thus eliminating the two most common causes for hermetic package failure: solder joint fatigue and cracked glass.

## Rectangular DC Connectors



PA&E's hermetically-sealed rectangular DC connectors exceed most mil-spec requirements and are designed for use in military and commercial applications, where environmental conditions require an extremely rugged and reliable hermetic seal. The uniquely-controlled CTE characteristics, chemical bonding properties and polycrystalline structure of Kryoflex<sup>®</sup> allows PA&E to manufacture these hermetic connectors with 304L stainless steel shells and gold-plated beryllium-copper contacts to maintain excellent electrical performance and environmental characteristics.

## Ceramic EMI Filters



PA&E's military-qualified Filter Products Group specializes in the design and manufacture of high-reliability low-pass EMI filters. Utilizing multi-layer ceramic discoidal capacitors and ferrite inductors, PA&E's engineering staff are experts at designing EMI filtering solutions for electronic circuits operating in hostile EMI environments. In-house manufacture and testing, in accordance with MIL-PRF-28861, Class B (QPL) and S, are standard practice.

## Bonded Metals



PA&E has been the innovative leader in the explosive metal working field for over 30 years. Our customers have access to some of the world's most exciting metal working technologies, such as: Explosive Metal Bonding, Explosive Metal Forming, Explosive Shock Hardening and Dynamic Powder Metal Compaction. These high-strain rate technologies offer unique metal working advantages that can help our customers achieve the "impossible."



434 Olds Station Road Wenatchee, Washington 98801

TEL 509.664.8000 FAX 509.663.5039

[www.pacaero.com](http://www.pacaero.com)



ISO 9001:2000  
ISO 9001:2000/AS9100