



**GLASSEAL
PRODUCTS™**

AMETEK®
HCC INDUSTRIES

Single Pin Feed Thru's and RF Terminals



Products

- ▲ Circular connectors
- ▲ Rectangular connectors
- ▲ DC and RF Feed thru's
- ▲ Battery and Capacitor end seals
- ▲ TO Headers, flat-packs, plug-ins, and platforms
- ▲ Complex machined housings for Opto-electronic, Micro-electronic and Microwave assemblies
- ▲ Thermal management solutions

Capabilities

- ▲ Design expertise and modeling capabilities
 - ✓ Mechanical, electrical and thermal
- ▲ Experienced design and process engineers
- ▲ Responsive Sales and Customer Service representatives
- ▲ High temperature brazing and glass-sealing furnaces
- ▲ Low temperature braze integration furnaces
- ▲ Chemical cleaning facility
- ▲ On-site plating shop
- ▲ Inspection and testing facilities
- ▲ Quality system registered to ISO 9001:2000 and AS9100:2004
- ▲ Access to global supply base
- ▲ 50,000 sq ft facility.
- ▲ Forward looking business plan

Glasseal Products (GSP) manufactures the most complete line of hermetically sealed single pin feed thru's for low frequency power and signal purposes and for Radio Frequency (RF) applications.

Our single pin feed thru's are available with either flanged or straight bodies, matched or compression seals, solid or tubular pins. High current needs can be met with the use of Copper-cored pins. RF terminals will meet the design parameters of SMA, SMP (GPO) and SSMP (GPPO) products.

GSPs terminals are designed for use in demanding environments and will withstand the rigors of assembly into a wide variety of electrical and electronic products. The end uses are as diverse as telecommunications instruments, industrial sensors and aerospace systems where these glass-to-metal seals are required to maintain an ultra high-level of Hermeticity over periods of time often measured in decades.

This data sheet provides a starting point for your product design and illustrates the many options available to suit your assembly and functional needs. GSP has an extensive design library that includes many sizes of feed thru's and terminals and we invite you to contact our customer service representatives to explore off-the-shelf design solutions or customized needs.

Electrical and environmental performance data of our finished products is available upon request.

Minimum Performance Criteria:

Hermeticity: Leakage rate less than 1×10^{-8} cc/sec of Helium at 15 PSI

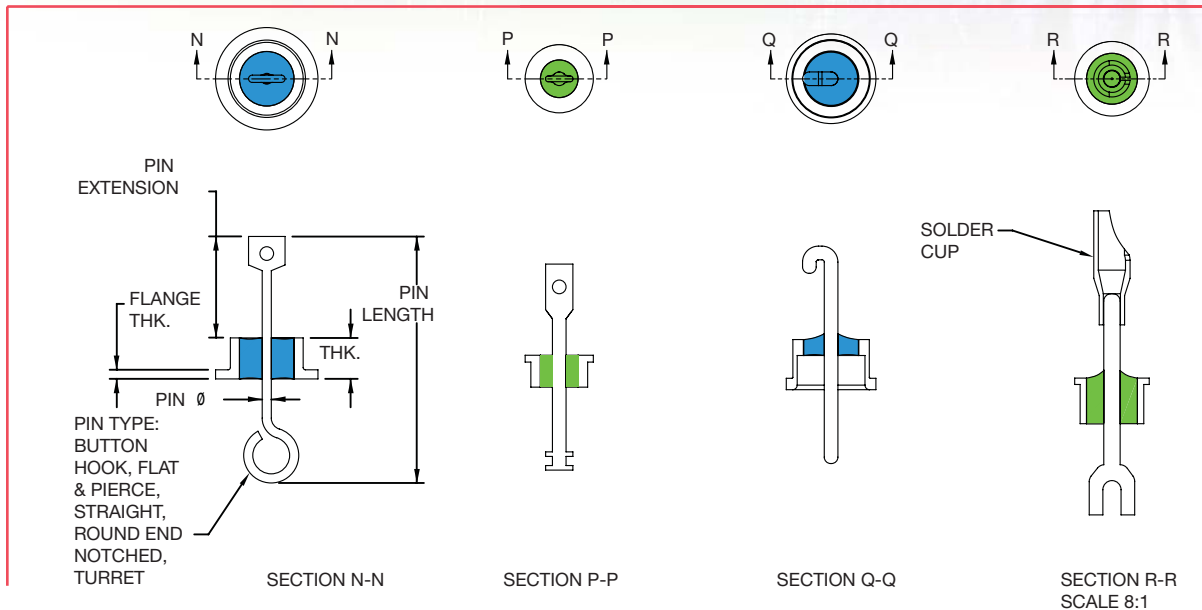
Insulation Resistance: Greater than 10,000 Megohms at 500 VDC

Dielectric Withstanding Voltage: Minimum of 500 V rms

Thermal Shock: No evidence of damage detrimental to the operation of terminals at -65°C (-85°F) to +125°C (+257°F).



Single Pin Feed Thru

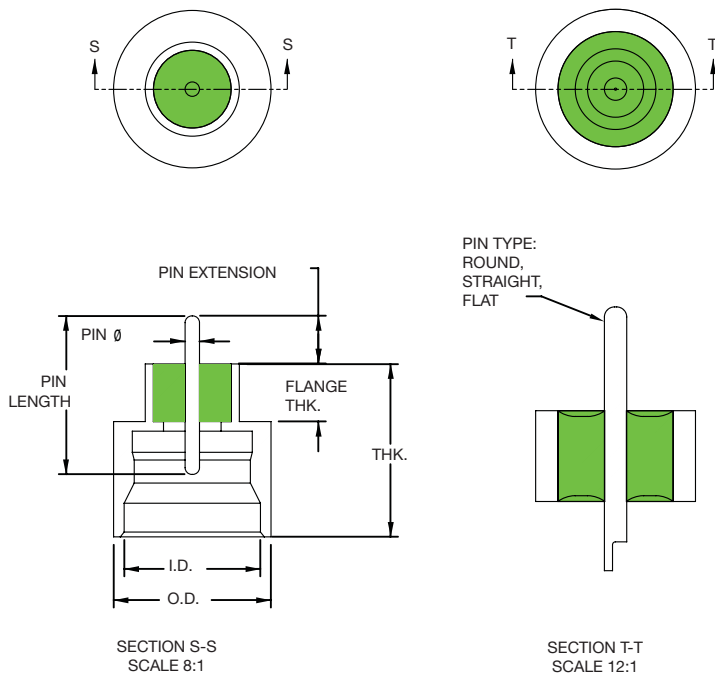


CURRENT RATING		
TERMINAL DIAMETER	CURRENT RATINGS AMPS.	
	STANDARD	HIGH CONDUCTIVITY
0.030	3	4.5
0.040	5.5	8.2
0.050	7.5	11.2
0.060	10	15
0.080	15	22.5
0.093	20	30

DIELECTRIC WITHSTAND VOLTAGE	
TEST VOLTAGE (Vrms)	GLASS INSULATION REQUIRED BETWEEN BODY & PINS (INCHES)
500	0.015
750	0.022
1000	0.030
1500	0.043
2000	0.058
2500	0.072

DESIGN FEATURE	DESIGN GUIDELINE
BODY Ø	To fit case
BODY MATERIAL	Typically Kovar, cold-rolled steel, stainless steel
GLASS THICKNESS	0.05" minimum
PIN LENGTH	As required
PIN EXTENSION	As required
PIN MATERIAL	Typically 52 Alloy, cold-rolled steel, Kovar
PIN TERMINATION	To fit next assembly
PLATING	To fit next assembly

RF Terminals



DESIGN FEATURE	DESIGN GUIDELINE
BODY MATERIAL	Typically stainless steel, Kovar
GLASS THICKNESS	0.050" minimum
PIN LENGTH	As required
PIN EXTENSION	As required

MATERIAL	DIELECTRIC CONSTANT
CORNING 7070	4.1
CORNING 7052	4.9
CORNING 9013	6.65

About Glasseal Products

Sealing glass to metal for over 50 years, Glasseal Products, Inc (GSP) is one of the most versatile manufacturers of hermetically sealed interconnection and microelectronic packaging components in business today. As a business unit of AMETEK HCC Industries, GSP has a broad portfolio of connectors, header, feed thru's, end seals and packages in both glass and ceramic configurations. We manufacture both standard MIL Spec products and customized designs to your drawings and technical requirements.



Glasseal Products, Inc.
 485 Oberlin Avenue • Lakewood, NJ 08701 • USA
 TEL: 732-370-9100 • FAX: 732-370-7107
www.hccindustries.com

and in Europe:

HCC Industries International
 49-53 Hazelwood Road • Northampton, NN1 1LG • UK
 TEL: +44 (0) 1604 233101 • FAX: +44 (0) 1604 232907
www.hccindustries.com