

RF Surge Protector SPD, Reverse Polarity SMA F/M, DC - 6GHz, 150W, 60 V Max., 10kA, Gas Discharge Tube



## GTH-RPSFM-AL

### Features

- Broadband Performance from DC to 6 GHz
- Repetitive Lightning Strike Capability
- Bi-directional Protection
- Replaceable Gas Tube for Installation Longevity
- Robust Brass Construction

### Applications

- Cellular
- Land Mobile Radio, VHF/UHF
- Wireless LAN
- Wireless Cable (MMDS)
- GPS

### Description

RF surge protector (also known as lightning arrestor) GTH-RPSFM-AL from PolyPhaser utilizing a gas discharge tube design to protect critical hardware while maintaining the RF performance. This RF surge protector component is manufactured in a coaxial in-line design with wide operating frequency range. PolyPhaser RF surge protector products are available in stock with same day shipping.

### Electrical Specifications

Surge Protector Type	Gas Discharge Tube			
Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		6	GHz
Impedance		50		Ohms
VSWR			1.5:1	
Insertion Loss			0.6	dB
Operating Voltage (DC)			60	Volts
Input Power, CW			150	Watts
Surge Current			10	kA
Turn On Voltage		90		Volts

### Mechanical Specifications

Size	
Length	2.1 in [53.34 mm]
Width/Diameter	0.9 in [22.86 mm]
Height	1.2 in [30.48 mm]
Weight	0.25 lbs [113.4 g]
Housing Material and Plating	Brass, Tri-Metal

Configuration	
Input Connector	SMA Female Reverse Polarity
Output Connector	SMA Male Reverse Polarity

### Environmental Specifications

Temperature	
Operating Range	-40 to +85 deg C

RF Surge Protector SPD, Reverse Polarity SMA F/M, DC - 6GHz, 150W, 60 V Max., 10kA, Gas Discharge Tube



## GTH-RPSFM-AL

---

**Compliance Certifications** (see product page for current document)

### Plotted and Other Data

Notes:

PolyPhaser protects and increases the reliability of global RF communications networks, including transportation, telecommunications, defense, security and industrial applications, with superior RF surge protection technologies including DC Block, DC Pass and Ultra Low PIM. Backed by responsive service and expert technical support PolyPhaser continually expands its product offering and services to serve engineers' urgent needs for RF components in mission critical communication networks.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [RF Surge Protector SPD, Reverse Polarity SMA F/M, DC - 6GHz, 150W, 60 V Max., 10kA, Gas Discharge Tube GTH-RPSFM-AL](#)

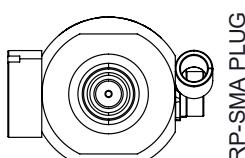
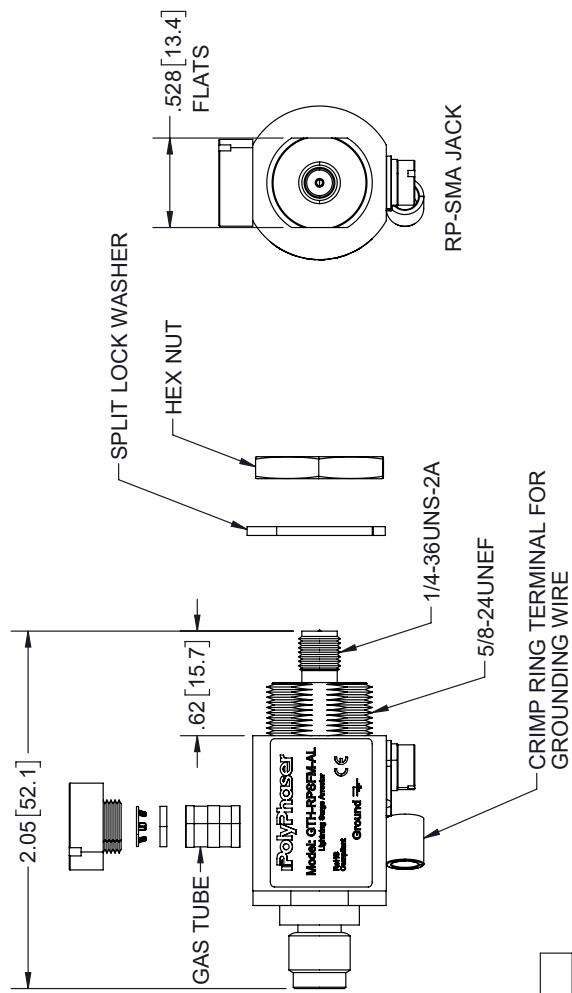
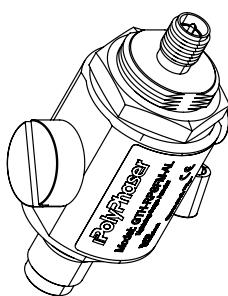
URL: <https://www.polyphaser.com/sma-surge-protector-6ghz-gas-discharge-tube-gth-rpsfm-al-p.aspx>

The information contained within this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part in order to implement improvements. PolyPhaser reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. PolyPhaser does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and PolyPhaser does not assume liability arising out of the use of any part or document.

## **GTH-RPSFM-AL CAD Drawing**

RF Surge Protector SPD, Reverse Polarity SMA F/M, DC - 6GHz, 150W, 60 V Max., 10kA, Gas Discharge Tube

REVISIONS					
REV.	DESCRIPTION	ECN	DATE	APPROVED	
A	PRODUCTION RELEASE		1/9/20	DWR	
B	UPDATE LENGTH DIM	15401	4/6/20	DWR	



## ELECTRICAL SPECIFICATIONS

MECHANICAL SPECIFICATIONS	
FREQUENCY RANGE	0-6 GHz
VSWR	1 : 1.2 MAX (0-6 GHz)
INSERTION LOSS	0.6 dB MAX (0-6 GHz)
IMPEDANCE	50 OHM
GAS TUBE BREAKDOWN VOLTAGE	180 V $\pm$ 20%
CONNECTORS	
CONNECTOR BODY MATERIAL	NICKEL PLATED BRASS
BODY MATERIAL	NICKEL PLATED BRASS
PIN MATERIAL	GOLD PLATED BRASS
O-RING	RUBBER
DIMENSIONS (MAX)	2.1 X 0.9 X 1.2 IN (53 X 23 X 33 mm)
WEIGHT	0.25 LBS (0.11 kg)

THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS, DIVERSION CONTRARY TO U.S. LAW PROHIBITED

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE IN INCHES DIMENSIONS IN ( ) ARE IN MILLIMETERS	
TOLERANCES:	
$X = \pm .2$	$[\pm .02]$
$XX = \pm .05$	$[\pm .13]$
$XXX = \pm .005$	$[\pm .13]$
FRACTIONS	
CABLE LENGTH (L) TOLERANCES	
$L = \pm 12 [305]$	$[\pm 11.80]$
$12 [305] < L \le 16 [406]$	$[\pm 15.54]$
$16 [406] < L \le 20 [508]$	$[\pm 15.41]$
$20 [508] < L \le 30 [762]$	$[\pm 14.08]$
$30 [762] < L \le 40 [1016]$	$[\pm 16.20]$
$40 [1016] < L \le 50 [1270]$	$[\pm 16.20]$
$50 [1270] < L \le 60 [1524]$	$[\pm 16.20]$
$60 [1524] < L \le 70 [1778]$	$[\pm 16.20]$
$70 [1778] < L \le 80 [2032]$	$[\pm 16.20]$
$80 [2032] < L \le 90 [2286]$	$[\pm 16.20]$
$90 [2286] < L \le 100 [2540]$	$[\pm 16.20]$
$100 [2540] < L \le 110 [2794]$	$[\pm 16.20]$
$110 [2794] < L \le 120 [3048]$	$[\pm 16.20]$
$120 [3048] < L \le 130 [3302]$	$[\pm 16.20]$
$130 [3302] < L \le 140 [3556]$	$[\pm 16.20]$
$140 [3556] < L \le 150 [3810]$	$[\pm 16.20]$
$150 [3810] < L \le 160 [4064]$	$[\pm 16.20]$
$160 [4064] < L \le 170 [4318]$	$[\pm 16.20]$
$170 [4318] < L \le 180 [4572]$	$[\pm 16.20]$
$180 [4572] < L \le 190 [4826]$	$[\pm 16.20]$
$190 [4826] < L \le 200 [5080]$	$[\pm 16.20]$
$200 [5080] < L \le 210 [5334]$	$[\pm 16.20]$
$210 [5334] < L \le 220 [5588]$	$[\pm 16.20]$
$220 [5588] < L \le 230 [5842]$	$[\pm 16.20]$
$230 [5842] < L \le 240 [6096]$	$[\pm 16.20]$
$240 [6096] < L \le 250 [6350]$	$[\pm 16.20]$
$250 [6350] < L \le 260 [6604]$	$[\pm 16.20]$
$260 [6604] < L \le 270 [6858]$	$[\pm 16.20]$
$270 [6858] < L \le 280 [7112]$	$[\pm 16.20]$
$280 [7112] < L \le 290 [7366]$	$[\pm 16.20]$
$290 [7366] < L \le 300 [7620]$	$[\pm 16.20]$
$300 [7620] < L \le 310 [7874]$	$[\pm 16.20]$
$310 [7874] < L \le 320 [8128]$	$[\pm 16.20]$
$320 [8128] < L \le 330 [8382]$	$[\pm 16.20]$
$330 [8382] < L \le 340 [8636]$	$[\pm 16.20]$
$340 [8636] < L \le 350 [8890]$	$[\pm 16.20]$
$350 [8890] < L \le 360 [9144]$	$[\pm 16.20]$
$360 [9144] < L \le 370 [9398]$	$[\pm 16.20]$
$370 [9398] < L \le 380 [9652]$	$[\pm 16.20]$
$380 [9652] < L \le 390 [9906]$	$[\pm 16.20]$
$390 [9906] < L \le 400 [10150]$	$[\pm 16.20]$
$400 [10150] < L \le 410 [10404]$	$[\pm 16.20]$
$410 [10404] < L \le 420 [10658]$	$[\pm 16.20]$
$420 [10658] < L \le 430 [10912]$	$[\pm 16.20]$
$430 [10912] < L \le 440 [11166]$	$[\pm 16.20]$
$440 [11166] < L \le 450 [11420]$	$[\pm 16.20]$
$450 [11420] < L \le 460 [11674]$	$[\pm 16.20]$
$460 [11674] < L \le 470 [11928]$	$[\pm 16.20]$
$470 [11928] < L \le 480 [12182]$	$[\pm 16.20]$
$480 [12182] < L \le 490 [12436]$	$[\pm 16.20]$
$490 [12436] < L \le 500 [12690]$	$[\pm 16.20]$
$500 [12690] < L \le 510 [12944]$	$[\pm 16.20]$
$510 [12944] < L \le 520 [13198]$	$[\pm 16.20]$
$520 [13198] < L \le 530 [13452]$	$[\pm 16.20]$
$530 [13452] < L \le 540 [13706]$	$[\pm 16.20]$
$540 [13706] < L \le 550 [13960]$	$[\pm 16.20]$
$550 [13960] < L \le 560 [14214]$	$[\pm 16.20]$
$560 [14214] < L \le 570 [14468]$	$[\pm 16.20]$
$570 [14468] < L \le 580 [14722]$	$[\pm 16.20]$
$580 [14722] < L \le 590 [14976]$	$[\pm 16.20]$
$590 [14976] < L \le 600 [15230]$	$[\pm 16.20]$
$600 [15230] < L \le 610 [15484]$	$[\pm 16.20]$
$610 [15484] < L \le 620 [15738]$	$[\pm 16.20]$
$620 [15738] < L \le 630 [16092]$	$[\pm 16.20]$
$630 [16092] < L \le 640 [16346]$	$[\pm 16.20]$
$640 [16346] < L \le 650 [16500]$	$[\pm 16.20]$
$650 [16500] < L \le 660 [16754]$	$[\pm 16.20]$
$660 [16754] < L \le 670 [17008]$	$[\pm 16.20]$
$670 [17008] < L \le 680 [17262]$	$[\pm 16.20]$
$680 [17262] < L \le 690 [17516]$	$[\pm 16.20]$
$690 [17516] < L \le 700 [17770]$	$[\pm 16.20]$
$700 [17770] < L \le 710 [18024]$	$[\pm 16.20]$
$710 [18024] < L \le 720 [18278]$	$[\pm 16.20]$
$720 [18278] < L \le 730 [18532]$	$[\pm 16.20]$
$730 [18532] < L \le 740 [18786]$	$[\pm 16.20]$
$740 [18786] < L \le 750 [19040]$	$[\pm 16.20]$
$750 [19040] < L \le 760 [19294]$	$[\pm 16.20]$
$760 [19294] < L \le 770 [19548]$	$[\pm 16.20]$
$770 [19548] < L \le 780 [19802]$	$[\pm 16.20]$
$780 [19802] < L \le 790 [20056]$	$[\pm 16.20]$
$790 [20056] < L \le 800 [20310]$	$[\pm 16.20]$
$800 [20310] < L \le 810 [20564]$	$[\pm 16.20]$
$810 [20564] < L \le 820 [20818]$	$[\pm 16.20]$
$820 [20818] < L \le 830 [21072]$	$[\pm 16.20]$
$830 [21072] < L \le 840 [21326]$	$[\pm 16.20]$
$840 [21326] < L \le 850 [21580]$	$[\pm 16.20]$
$850 [21580] < L \le 860 [21834]$	$[\pm 16.20]$
$860 [21834] < L \le 870 [22088]$	$[\pm 16.20]$
$870 [22088] < L \le 880 [22342]$	$[\pm 16.20]$
$880 [22342] < L \le 890 [22596]$	$[\pm 16.20]$
$890 [22596] < L \le 900 [22850]$	$[\pm 16.20]$
$900 [22850] < L \le 910 [23104]$	$[\pm 16.20]$
$910 [23104] < L \le 920 [23358]$	$[\pm 16.20]$
$920 [23358] < L \le 930 [23612]$	$[\pm 16.20]$
$930 [23612] < L \le 940 [23866]$	$[\pm 16.20]$
$940 [23866] < L \le 950 [24120]$	$[\pm 16.20]$
$950 [24120] < L \le 960 [24374]$	$[\pm 16.20]$
$960 [24374] < L \le 970 [24628]$	$[\pm 16.20]$
$970 [24628] < L \le 980 [24882]$	$[\pm 16.20]$
$980 [24882] < L \le 990 [25136]$	$[\pm 16.20]$
$990 [25136] < L \le 1000 [25390]$	$[\pm 16.20]$
$1000 [25390] < L \le 1010 [25644]$	$[\pm 16.20]$
$1010 [25644] < L \le 1020 [25898]$	$[\pm 16.20]$
$1020 [25898] < L \le 1030 [26152]$	$[\pm 16.20]$
$1030 [26152] < L \le 1040 [26406]$	$[\pm 16.20]$
$1040 [26406] < L \le 1050 [26660]$	$[\pm 16.20]$
$1050 [26660] < L \le 1060 [26914]$	$[\pm 16.20]$
$1060 [26914] < L \le 1070 [27168]$	$[\pm 16.20]$
$1070 [27168] < L \le 1080 [27422]$	$[\pm 16.20]$
$1080 [27422] < L \le 1090 [27676]$	$[\pm 16.20]$
$1090 [27676] < L \le 1100 [27930]$	$[\pm 16.20]$
$1100 [27930] < L \le 1110 [28184]$	$[\pm 16.20]$
$1110 [28184] < L \le 1120 [28438]$	$[\pm 16.20]$
$1120 [28438] < L \le 1130 [28692]$	$[\pm 16.20]$
$1130 [28692] < L \le 1140 [28946]$	$[\pm 16.20]$
$1140 [28946] < L \le 1150 [29100]$	$[\pm 16.20]$
$1150 [29100] < L \le 1160 [29354]$	$[\pm 16.20]$
$1160 [29354] < L \le 1170 [29608]$	$[\pm 16.20]$
$1170 [29608] < L \le 1180 [29862]$	$[\pm 16.20]$
$1180 [29862] < L \le 1190 [30116]$	$[\pm 16.20]$
$1190 [30116] < L \le 1200 [30370]$	$[\pm 16.20]$
$1200 [30370] < L \le 1210 [30624]$	$[\pm 16.20]$
$1210 [30624] < L \le 1220 [30878]$	$[\pm 16.20]$
$1220 [30878] < L \le 1230 [31132]$	$[\pm 16.20]$
$1230 [31132] < L \le 1240 [31386]$	$[\pm 16.20]$
$1240 [31386] < L \le 1250 [31640]$	$[\pm 16.20]$
$1250 [31640] < L \le 1260 [31894]$	$[\pm 16.20]$
$1260 [31894] < L \le 1270 [32148]$	$[\pm 16.20]$
$1270 [32148] < L \le 1280 [32402]$	$[\pm 16.20]$
$1280 [32402] < L \le 1290 [32656]$	$[\pm 16.20]$
$1290 [32656] < L \le 1300 [32910]$	$[\pm 16.20]$
$1300 [32910] < L \le 1310 [33164]$	$[\pm 16.20]$
$1310 [33164] < L \le 1320 [33418]$	$[\pm 16.20]$
$1320 [33418] < L \le 1330 [33672]$	$[\pm 16.20]$
$1330 [33672] < L \le 1340 [33926]$	$[\pm 16.20]$
$1340 [33926] < L \le 1350 [34180]$	$[\pm 16.20]$
$1350 [34180] < L \le 1360 [34434]$	$[\pm 16.20]$
$1360 [34434] < L \le 1370 [34688]$	$[\pm 16.20]$
$1370 [34688] < L \le 1380 [34942]$	$[\pm 16.20]$
$1380 [34942] < L \le 1390 [35196]$	$[\pm 16.20]$
$1390 [35196] < L \le 1400 [35450]$	$[\pm 16.20]$
$1400 [35450] < L \le 1410 [35604]$	$[\pm 16.20]$
$1410 [35604] < L \le 1420 [35858]$	$[\pm 16.20]$
$1420 [35858] < L \le 1430 [36112]$	$[\pm 16.20]$
$1430 [36112] < L \le 1440 [36366]$	$[\pm 16.20]$
$1440 [36366] < L \le 1450 [36620]$	$[\pm 16.20]$
$1450 [36620] < L \le 1460 [36874]$	$[\pm 16.20]$
$1460 [36874] < L \le 1470 [37128]$	$[\pm 16.20]$
$1470 [37128] < L \le 1480 [37382]$	$[\pm 16.20]$
$1480 [37382] < L \le 1490 [37636]$	$[\pm 16.20]$
$1490 [37636] < L \le 1500 [37890]$	$[\pm 16.20]$
$1500 [37890] < L \le 1510 [38144]$	$[\pm 16.20]$
$1510 [38144] < L \le 1520 [38398]$	$[\pm 16.20]$
$1520 [38398] < L \le 1530 [38652]$	$[\pm 16.20]$
$1530 [38652] < L \le 1540 [38906]$	$[\pm 16.20]$
$1540 [38906] < L \le 1550 [39160]$	$[\pm 16.20]$
$1550 [39160] < L \le 1560 [39414]$	$[\pm 16.20]$
$1560 [39414] < L \le 1570 [39668]$	$[\pm 16.20]$
$1570 [39668] < L \le 1580 [39922]$	$[\pm 16.20]$
$1580 [39922] < L \le 1590 [40176]$	$[\pm 16.20]$
$1590 [40176] < L \le 1600 [40430]$	$[\pm 16.20]$
$1600 [40430] < L \le 1610 [40684]$	$[\pm 16.20]$
$1610 [40684] < L \le 1620 [40938]$	$[\pm 16.20]$
$1620 [40938] < L \le 1630 [41192]$	$[\pm 16.20]$
$1630 [41192] < L \le 1640 [41446]$	$[\pm 16.20]$
$1640 [41446] < L \le 1650 [41600]$	$[\pm 16.20]$
$1650 [41600] < L \le 1660 [41854]$	$[\pm 16.20]$
$1660 [41854] < L \le 1670 [42108]$	$[\pm 16.20]$
$1670 [42108] < L \le 1680 [42362]$	$[\pm 16.20]$
$1680 [42362] < L \le 1690 [42616]$	$[\pm 16.20]$
$1690 [42616] < L \le 1700 [42870]$	$[\pm 16.20]$
$1700 [42870] < L \le 1710 [43124]$	$[\pm 16.20]$
$1710 [43124] < L \le 1720 [43378]$	$[\pm 16.20]$
$1720 [43378] < L \le 1730 [43632]$	$[\pm 16.20]$
$1730 [43632] < L \le 1740 [43886]$	$[\pm 16.20]$
$1740 [43886] < L \le 1750 [44140]$	$[\pm 16.20]$
$1750 [44140] < L \le 1760 [44394]$	$[\pm 16.20]$
$1760 [44394] < L \le 1770 [44648]$	$[\pm 16.20]$
$1770 [44648] < L \le 1780 [44902]$	$[\pm 16.20]$
$1780 [44902] < L \le 1790 [45156]$	$[\pm 16.20]$
$1790 [45156] < L \le 1800 [45410]$	$[\pm 16.20]$
$1800 [45410] < L \le 1810 [45664]$	$[\pm 16.20]$
$1810 [45664] < L \le 1820 [45918]$	$[\pm 16.20]$
$1820 [45918] < L \le 1830 [46172]$	$[\pm 16.20]$
$1830 [46172] < L \le 1840 [46426]$	$[\pm 16.20]$
$1840 [46426] < L \le 1850 [46680]$	$[\pm 16.20]$
$1850 [46680] < L \le 1860 [46934]$	$[\pm 16.20]$
$1860 [46934] < L \le 1870 [47188]$	$[\pm 16.20]$
$1870 [47188] < L \le 1880 [47442]$	$[\pm 16.20]$
$1880 [47442] < L \le 1890 [47696]$	$[\pm 16.20]$
$1890 [47696] < L \le 1900 [47950]$	$[\pm 16.20]$
$1900 [47950] < L \le 1910 [48204]$	$[\pm 16.20]$
$1910 [48204] < L \le 1920 [48458]$	$[\pm 16.20]$
$1920 [48458] < L \le 1930 [48712]$	$[\pm 16.20]$
$1930 [48712] < L \le 1940 [48966]$	$[\pm 16.20]$
$1940 [48966] < L \le 1950 [49220]$	$[\pm 16.20]$
$1950 [49220] < L \le 1960 [49474]$	$[\pm 16.20]$
$1960 [49474] < L \le 1970 [49728]$	$[\pm 16.20]$
$1970 [49728] < L \le 1980 [50082]$	$[\pm 16.20]$
$1980 [50082] < L \le 1990 [50336]$	$[\pm 16.20]$
$1990 [50336] < L \le 2000 [50590]$	$[\pm 16.20]$
$2000 [50590] < L \le 2010 [50844]$	$[\pm 16.20]$
$2010 [50844] < L \le 2020 [51098]$	$[\pm 16.20]$
$2020 [51098] < L \le 2030 [51352]$	$[\pm 16.20]$
$2030 [51352] < L \le 2040 [51606]$	$[\pm 16.20]$
$2040 [51606] < L \le 2050 [51860]$	$[\pm 16.20]$
$2050 [51860] < L \le 2060 [52114]$	$[\pm 16.20]$
$2060 [52114] < L \le 2070 [52368]$	$[\pm 16.20]$
$2070 [52368] < L \le 2080 [52622]$	$[\pm 16.20]$
$2080 [52622] < L \le 2090 [52876]$	$[\pm 16.20]$
$2090 [52876] < L \le 2100 [53130]$	$[\pm 16.20]$
$2100 [53130] <$	