



LP-GTR-D Series

- DC Pass Multi-Strike Design
- Replaceable Gas Tube
- Broadband Bidirectional Design
- Excellent IL/RL Performance Over the Entire Operating Frequency Band
- Fully Weatherized Housing
- Solid Brass Construction for Durability and Long Life
- Includes Universal Right Angle Bracket Adaptor

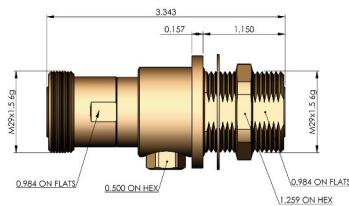


Lightning and Surge Protection for The 21st Century™

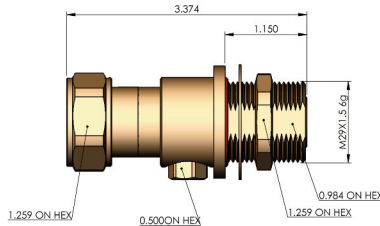
The **Times -Protect®** LP-GTR-D series is an exceptional broadband DC pass design for lightning protection applications requiring DC power to be supplied to the electronics. Offering outstanding surge performance the LP-GTR-D series is the perfect protection solution for distributed antenna systems, tower mounted amplifiers, GPS systems and other applications requiring DC pass circuitry. These devices exhibit outstanding RF performance with high surge current handling characteristics and cover a broad range of power handling requirements from 50 to 550 watts. Its fully weatherized housing meeting IP67 standard allows for outdoor as well as indoor installation. The 716 DIN connector types can be used from DC through 2500MHz.

LP-GTR-D Series:

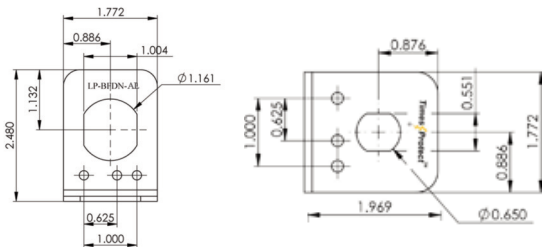
- LP-GTR-DFF (90Vdc/50W)
- LP-GTR-DFF-23 (230Vdc/210W)
- LP-GTR-DFF-35 (350Vdc/550W)
716 DIN Female connectors on both sides - bidirectional
- LP-GTR-DFM (90Vdc/50W)
- LP-GTR-DFM-23 (230Vdc/210W)
- LP-GTR-DFM-35 (350Vdc/550W)
716 DIN Male connector on one side & 716 DIN Female connector on the other side - bidirectional



- LP-GTR-DFF
 - LP-GTR-DFF-23
 - LP-GTR-DFF-35
- DC Pass DIN Type F/F



- LP-GTR-DFM
 - LP-GTR-DFM-23
 - LP-GTR-DFM-35
- DC Pass DIN Type F/M



- Universal Right Angle Bracket Adaptor

*All dimensions shown in inches

Electrical Specifications

| | | | |
|-----------------------|---|---------------------|-------------------|
| Impedance | 50 Ω | | |
| Frequency Range | DC-2500 MHz | | |
| VSWR/Return Loss | < 1.08:1 / <-28dB (DC to 1000MHz) < 1.1:1 / <-26dB (1000 to 2500MHz) | | |
| Insertion Loss | < 0.1dB (DC-1000MHz) < 0.2dB (1000-2500MHz) | | |
| Maximum Surge Current | 20kA multiple (8x20 μ s wave-form) | | |
| Part Number: LP-GTR- | DFD/DFM | DFF-23/DFM-23 | DFF-35/DFM-35 |
| Impulse Sparkover | 500V (1kV/ μ s) | 700V (1kV/ μ s) | 800(1kV/ μ s) |
| Turn-on | 90Vdc | 230Vdc | 350Vdc |
| Average Power | 50 Watts | 210 Watts | 550 Watts |
| Protection Circuit | DC Pass | | |

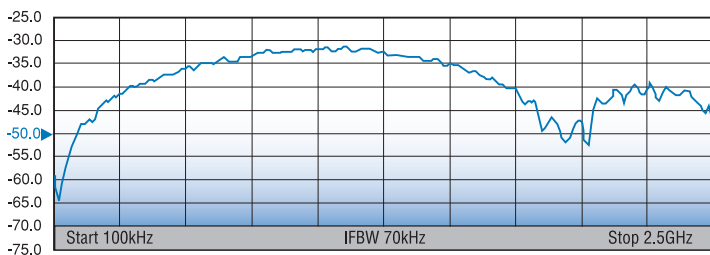
Mechanical / Environmental Specifications

| | | | |
|---------------------------------|---------------------------------|--|--|
| Temp Range Storage/Operating | -40°C - +85°C | | |
| Weatherization | IEC 60068 40/085/21 & IP 67 | | |
| Thermal Shock | US MIL-STD 202, Meth.107,Cond.B | | |
| Vibration | US MIL-STD 202, Meth.204,Cond.B | | |
| Shock | US MIL-STD 202, Meth.213,Cond.I | | |
| RoHS Compliant | Yes | | |
| Wear/Mating Cycles | 500 minimum | | |
| Recommended Coupling Nut Torque | 220 to 300 lb-in | | |
| Unit Weight | 0.4kg/pc \ 0.88lb | | |

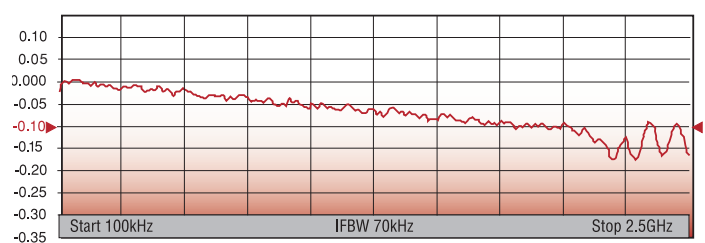
Material Specifications

| Component | Material | Plating |
|------------------------|-----------------|--------------|
| Body | Brass | White Bronze |
| Inner Conductor Male | Brass | Silver |
| Inner Conductor Female | Phosphor Bronze | Silver |
| Washer | Brass | White Bronze |
| Coupling Nut | Brass | White Bronze |
| Insulator | TPX | -- |
| O-Ring | Silicone Rubber | -- |

S11 **TYPICAL RETURN LOSS**(dB)



S21 **TYPICAL INSERTION LOSS**(dB)



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www.timesmicrowave.com

LP-GTR-N Series

- DC Pass Multi-Strike Design
- Replaceable Gas Tube
- Broadband Bidirectional Design
- Excellent IL/RL Performance Over the Entire Operating Frequency Band
- Fully Weatherized Housing
- Solid Brass Construction for Durability and Long Life
- Includes Universal Right Angle Bracket Adaptor

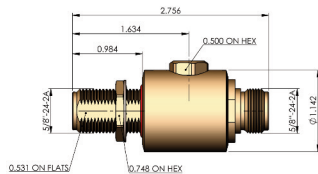


Lightning and Surge Protection for The 21st Century™

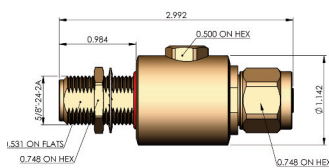
The **Times-Protect®** LP-GTR-N series is an exceptional broadband DC pass design for lightning protection applications requiring DC power to be supplied to the electronics. Offering outstanding surge performance, the LP-GTR-N series is the perfect protection solution for distributed antenna systems, tower mounted amplifiers, GPS systems and other applications requiring DC pass circuitry. These devices exhibit outstanding RF performance with high surge current handling characteristics and cover a broad range of power handling requirements from 50 to 550 watts. Its fully weatherized housing meeting IP67 standard allows for outdoor as well as indoor installation. The N connector designs cover the entire frequency spectrum from DC through 3000MHz.

LP-GTR-N Series:

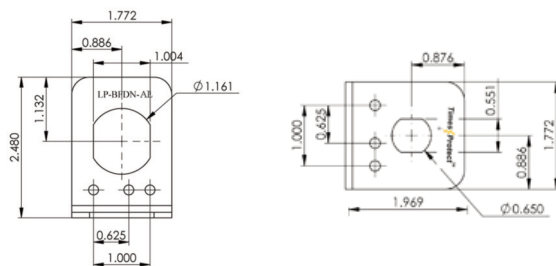
- LP-GTR-NFF (90Vdc/50W)
- LP-GTR-NFF-23 (230Vdc/210W)
- LP-GTR-NFF-35 (350Vdc/550W)
- N Female connectors on both sides - bidirectional
- LP-GTR-NFM (90Vdc/50W)
- LP-GTR-NFM-23 (230Vdc/210W)
- LP-GTR-NFM-35 (350Vdc/550W)
- N Male connector on one side & N Female connector on the other side - bidirectional



- LP-GTR-NFF
 - LP-GTR-NFF-23
 - LP-GTR-NFF-35
- DC Pass N Type F/F



- LP-GTR-NFM
 - LP-GTR-NFM-23
 - LP-GTR-NFM-35
- DC Pass N Type F/M



- Universal Right Angle Bracket Adaptor

*All Dimensions shown in inches

Electrical Specifications

| | | | |
|-----------------------|---|---------------------|---------------------|
| Impedance | 50 Ω | | |
| Frequency Range | DC-3000 MHz | | |
| VSWR/Return Loss | < 1.1:1 / <-26dB (DC-2800MHz) < 1.13:1 / <-24dB (2800-3000MHz) | | |
| Insertion Loss | < 0.1dB (DC-1000MHz) < 0.2dB (1000-3000Mhz) | | |
| Maximum Surge Current | 20kA multiple (8x20 μ s wave-form) | | |
| Part Number: LP-GTR | NFF/NFM | NFF-23/NFM-23 | NFF-35/NFM-35 |
| Impulse Sparkover | 500V (1kV/ μ s) | 700V (1kV/ μ s) | 800V (1kV/ μ s) |
| Turn on | 90Vdc | 230Vdc | 350Vdc |
| Average Power | 50 Watts | 210 Watts | 550 Watts |
| Protection Circuit | DC Pass | | |

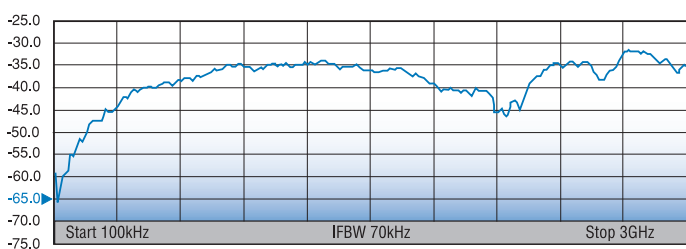
Mechanical / Environmental Specifications

| | | | |
|---------------------------------|---------------------------------|--|--|
| Temp Range Storage/Operating | -40°C - +85°C | | |
| Weatherization | IEC 60068 40/085/21 & IP67 | | |
| Thermal Shock | US MIL-STD 202, Meth.107,Cond.B | | |
| Vibration | US MIL-STD 202, Meth.204,Cond.B | | |
| Shock | US MIL-STD 202, Meth.213,Cond.I | | |
| RoHS Compliant | Yes | | |
| Wear/Mating Cycles | 500 minimum | | |
| Recommended Coupling Nut Torque | 7 to 10 lb-in | | |
| Unit Weight | 0.2kg/pc \ 0.44lb | | |

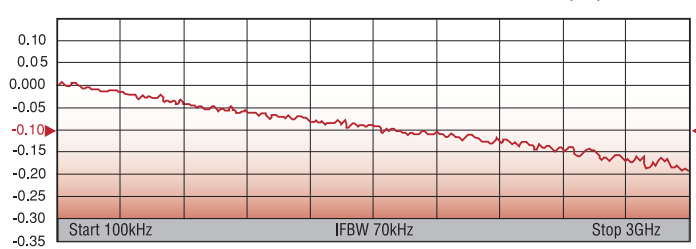
Material Specifications

| Component | Material | Plating |
|----------------------|-----------------|--------------|
| Body | Brass | White Bronze |
| Inner Conductor Male | Brass | Silver |
| Inner Conductor | Phosphor Bronze | Silver |
| Washer | Brass | White Bronze |
| Coupling Nut | Brass | White Bronze |
| Insulator | TPX | -- |
| O-Ring | Silicone Rubber | -- |

S11 TYPICAL RETURN LOSS(dB)



S21 TYPICAL INSERTION LOSS (dB)



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