

TimesProtect™

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

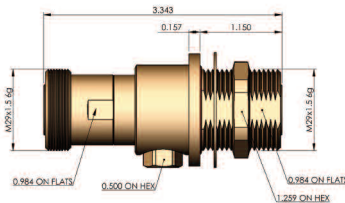


Lightning and Surge Protection for The 21st Century™

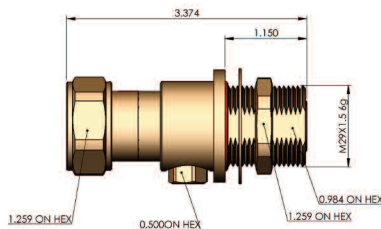
The **Times -Protect™** LP-GTR-D series is an exceptional broadband DC pass design for lightning protection applications requiring DC power to be supplied to the electronics. Offering outstanding surge performance the LP-GTR-D series is the perfect protection solution for distributed antenna systems, 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:

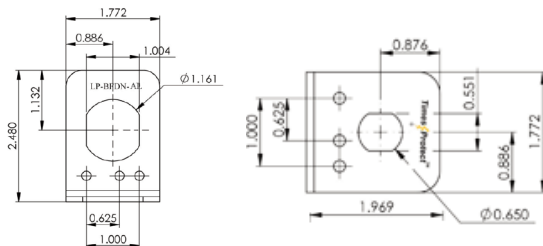
- LP-GTR-DFF (90Vdc/50W)
- LP-GTR-DFF-23 (230Vdc/210W)
- LP-GTR-DFF-35 (350Vdc/550W)
716 DIN Female connectors on both sides - bidirectional
- LP-GTR-DFM (90Vdc/50W)
- LP-GTR-DFM-23 (230Vdc/210W)
- LP-GTR-DFM-35 (350Vdc/550W)
716 DIN Male connector on one side & 716 DIN Female connector on the other 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 (8x20μs wave-form)		
Part Number: LP-GTR-	DFF/DFM	DFF-23/DFM-23	DFF-35/DFM-35
Impulse Sparkover	500V (1kV/μs)	700V (1kV/μs)	800(1kV/μs)
Turn-on	90Vdc	230Vdc	350Vdc
Average Power	50 Watts	210 Watts	550 Watts
Protection Circuit	DC Pass		

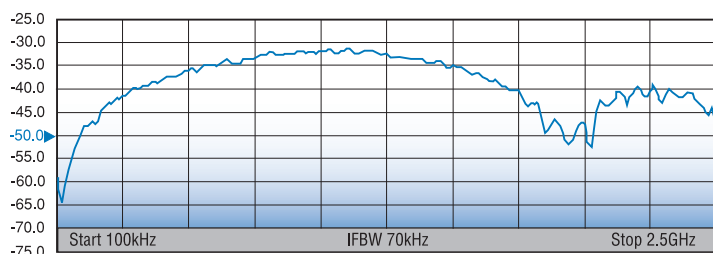
Mechanical / Environmental Specifications

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

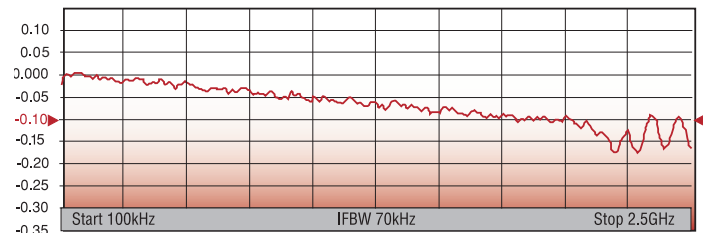
Material Specifications

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)**

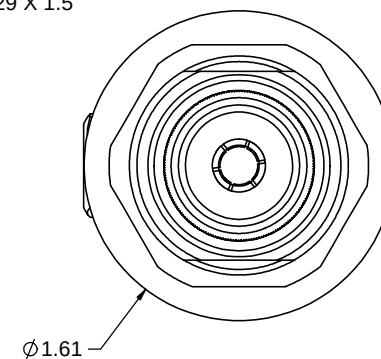
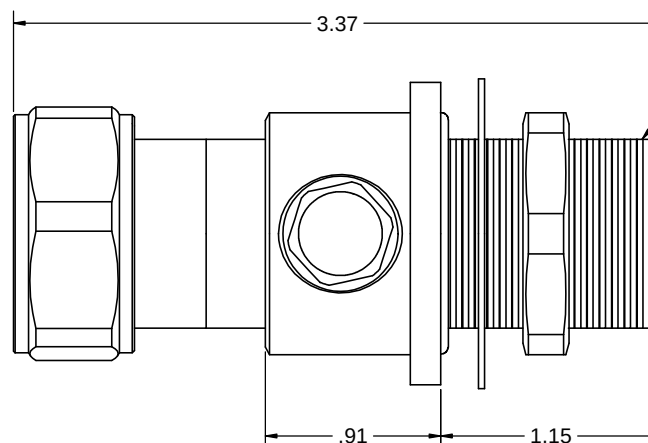
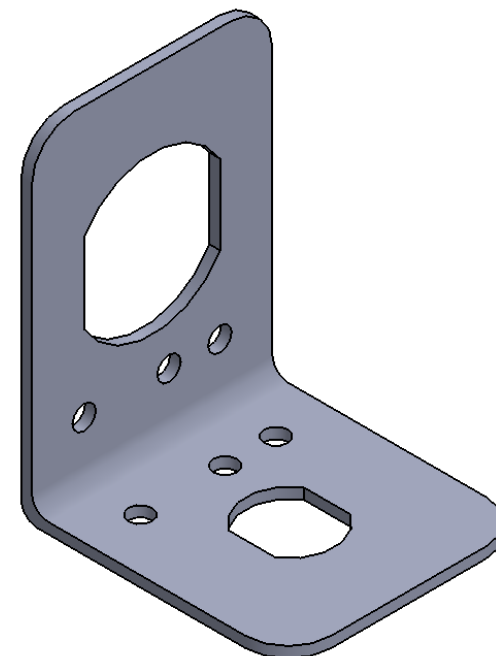
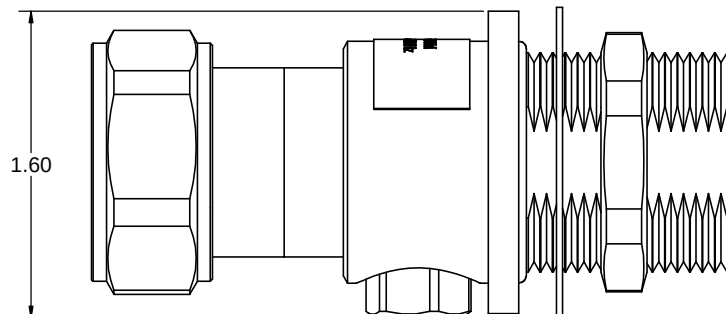
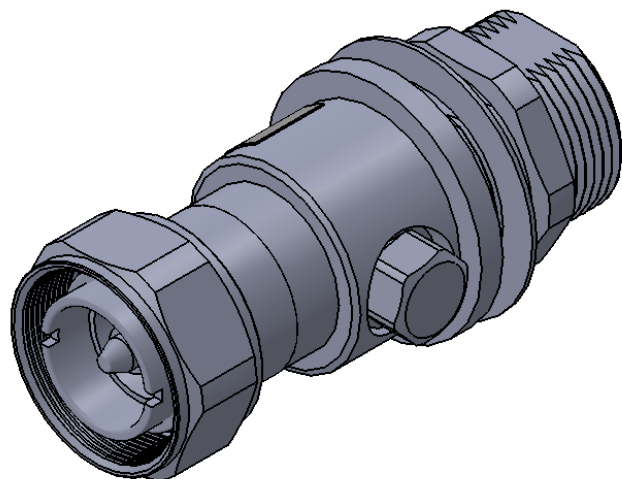


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REV.	REVISION DESCRIPTION	DTM	DATE	APPD	DATE
A	RELEASED FOR PRODUCTION	M.E.	03/24/14	M.E.	03/24/14



NOTES:

1. ELECTRICAL PERFORMANCE

IMPEDANCE: 50 OHMS
 OPERATING FREQUENCY: DC-2500 MHz
 VSWR/RETURN LOSS: < 1.08:1 / < -28 dB (DC-1000 MHz)
 < 1.1:1 / < -24 dB (1000-2500 MHz)
 INSERTION LOSS: < 0.1 dB (DC-1000 MHz)
 < 0.2 dB (1000-2500 MHz)
 AVERAGE POWER: 210 W
 MAX SURGE CURRENT: 20 kA MULTIPLE (8/20 us WAVE-FORM)
 IMPULSE SPARKOVER: 700 V (1 kV/us)
 TURN ON: 230 Vdc
 PROTECTION CIRCUIT: DC PASS, BIDIRECTIONAL

2. ENVIRONMENTAL CHARACTERISTICS

STORAGE/OPERATING TEMPERATURE: -40C TO +85C
 WEATHERIZATION: IP67
 VIBRATION: MIL-STD 202, METHOD 204, CONDITION B
 RoHS COMPLIANT

3. MATERIAL AND FINISH

INNER CONNECTOR FEMALE: PHOSPHOR BRONZE, SILVER PLATE
 INNER CONNECTOR MALE: BRASS, SILVER PLATE
 BODY: BRASS, WHITE BRONZE PLATE
 INSULATOR: TPX
 COUPLING NUT: BRASS, WHITE BRONZE PLATE
 O-RING: SILICONE RUBBER

MATERIAL:



USED ON ASSY.

DRAFTSMAN	M. ELLIS	03/24/14	TIMES MICROWAVE SYSTEMS		
CHECKER	M. ELLIS	03/24/14			
APPROVED	M. ELLIS	03/24/14			
UNLESS OTHERWISE SPECIFIED			TITLE: SURGE PROTECTOR DIN MALE TO DIN FEMALE DC-2500 MHz		
ALL DIMENSIONS ARE IN INCHES					
MACHINED SURFACES FINISH 32 RMS MAX. REMOVE ALL BURRS .005 MAX. BREAK MACHINE CORNERS .005 MAX. FILLET R.					
TOLERANCES ON DECIMALS			DWG. SIZE C	DRWG. NO. LP-GTR-DFM-23	REV. A
.XX ± .01 .XXX ± .005 ANGLES ± 1° FRACTIONS ± 1/32					
DO NOT SCALE DRAWING					
			CODE IDENT. 68999	SCALE: 2:1	SHEET 1 OF 1