



technical datasheet

AirGuard GT Series

RF surge protection for the fixed wireless market with applications for LMDS, WLL and MMDS

- Weatherproof
- Rugged construction
- Economic protection
- Versatile up to DC — 2.5GHz
- Allows DC/LF injection
- Multiple strike capability



The GT Series of surge protection devices prevent surges and transient overvoltages. The GT Series provides economic and robust protection in a versatile broadband package that avoids having to stock multiple frequency products. Ideal for a multi-disciplined wireless project, this series of surge protectors provides the right product at any site, particularly when space is at a premium.

Typical applications for the GT Series include the protection of radio telemetry systems, mobile communications base stations and where high induced voltages may be present.

Receivers and transmitters are particularly vulnerable to damage from the effects of lightning. Their remote locations (height above ground) and physical construction make them vulnerable to lightning activity. The use of semiconductors and integrated circuits in transmitters and receivers has rendered them particularly prone to damage from these disturbances.

Excellent performance levels are achieved using high energy gas discharge tubes to offer high surge current capability in a rugged, economic, compact enclosure to produce superior surge suppression.

The use of gas tube technology in surge protection applications is a mature and well proven technology. When used in RF coax applications, this technology provides broadband, low cost solutions while still maintaining high surge current capacity.

The AirGuard Series provides a wide range of connector types including BNC, TNC, N-type, SMA and UHF to suit all application requirements. In addition, bulkhead mounting options are provided where insertion into a panel is preferable. The GT and RGT Series are available with a wide choice of voltages: 90V, 145V, 230V, 350V, 470V 600V, 800V or 1,000V.

Complete site protection can be achieved by using our wide range of AC and DC power surge protection devices to prevent surges entering equipment via their power supply.

The ZoneMaster range of protectors combine a high level of protection and when used in conjunction with the ZoneBarrier data protection modules, provide the highest level of site protection available.

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SPECIFICATION

All figures typical at 77°F (25°C) unless otherwise stated

Maximum discharge current

30kA (8/20μs)
 SMA: 5kA (10/350μs)
 others: 10kA (10/350μs)

Maximum power rating (VSWR)

1.25:1 or 1.20:1

Frequency Range

DC to 2.5GHz

Peak Pulse Current (8/20μs)

40kA

Impedance

50 W

Temperature Range

-40°F to +194°F
 -40°C to +90°C

Dust & Waterproof

IP67

Salt Fog

MIL-STD-202-101 D/B

Temperature Shock

MIL-STD-202-107 D/B-1

Vibration

MIL-STD-202-204 D/D

Shock

MIL-STD-202-213/A

Model	Connectors	Frequency Range (GHz)	VSWR	Insertion Loss (dB)	Peak Pulse Current (8μs x 20μs)	Impedance (Ω)
RF51050*	BNC(f) Bulkhead to BNC(f)	DC - 2.5	1.25:1	.1	40kA	50
RF51051*	BNC(m) to BNC(f)	DC - 2.5	1.25:1	.1	40kA	50
RF51052*	TNC(f) Bulkhead(f) to TNC(f)	DC - 2.5	1.25:1	.1	40kA	50
RF51053*	TNC(m) to TNC(f)	DC - 2.5	1.25:1	.1	40kA	50
RF51054*	N(f) Bulkhead to N(f)	DC - 2.5	1.20:1	.1	40kA	50
RF51055*	N(m) to N(f)	DC - 2.5	1.20:1	.1	40kA	50
RF51057*	SMA(m) to SMA(f)	DC - 2.5	1.20:1	.2	40kA	50
RF51058*	N(f) Bulkhead to SMA(f)	DC - 2.5	1.20:1	.2	40kA	50

* Add alpha suffix to identify gas-tube voltage: A = 90V, B = 145V, C = 230V, D = 350V, E = 470V, F = 600V, G = 800V, H = 1,000V

Gas-Tube Voltage (Voltage should be defined by maximum RF power)

Parameter	Gas-Tube Voltage							
	A	B	C	D	E	F	G	H
Maximum RF Watts see notes 1, 2, 3	90	145	230	350	470	600	800	1000
kA Transient Current for 8 x 20μs pulse	37	96	241	558	1006	1640	2915	4555
V dynamic at 5k/μ	600	600	650	800	1200	1500	1900	2200
Let-through Energy in mJ see notes 1 & 4	0.3	0.3	0.35	0.7	2.2	4.4	9.0	14

- Note 1: Data given for 50Ω systems. For 75Ω systems multiply by 0.67, for 90Ω systems multiply by 0.55.
 Note 2: For combined carrier applications the sum of all peak RF voltages plus any injection voltages should not exceed 60% of the Gas-Tube voltage rating.
 Peak RF volts = 1.4 x (RF power x Ohms) ^0.5.
 Note 3: RF power is limited by the connector capability also.
 Note 4: Let-through Energy based on the 6kV/3kA per ANSI C62.41.

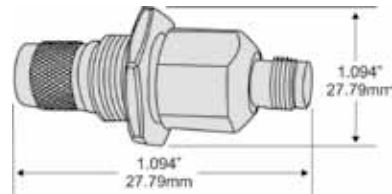
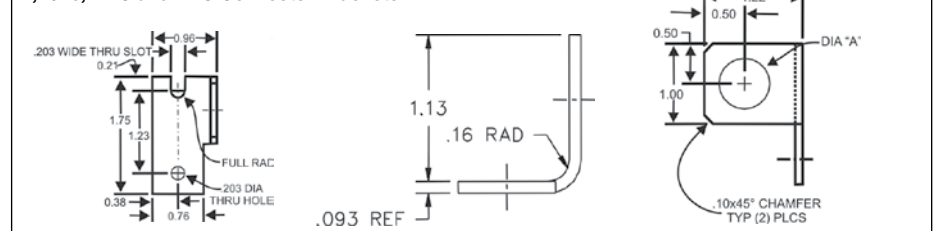


Figure 1 Dimensions (dimensions vary depending on type of connector)

Brackets

Model	Connectors	Diameter
RF51075	N	0.630" (1.6cm)
RF51077	BNC/TNC	0.505" (1.28cm)

N, 7/16, BNC and TNC Connector Brackets



The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.



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