Product Data Sheet **828-10DA**

FM Sidemount Antennas 828DA Series

Product Description

These FM sidemount antennas are designed for FM broadcasting applications which require circular polarization and low windloads.
The 828DA series of antennas are circularly polarized Band II antennas with a nominal gain of –1dBd per plane of polarization.
The antennas are fitted with a horizontal reflecting element to provide some improvement in the directionality of the horizontal radiation pattern.
The stainless steel design ensures that the antenna will give years of trouble free performance in the most hostile environments. The higher power series are pressurized to add further environmental protection.
The elements will tolerate a degree of light icing but for more severe environments, optional radomes are available. Contact RFS for details.
All 828DA series antennas can be arrayed in any number of levels to suit most applications. The parallel feed system facilitates the customization of null fill and beam tilt to suit customer requirements.
The standard 828DA antenna series is a high power series and is also available in a medium power series, 828MPDA. There are 3 versions in each series, each with a designed bandwidth of 10MHz. Additional factory tuning is available to achieve superior return loss specifications.
A wideband series of the 828DA antenna, the 828HPDA, is also available. This series has a bandwidth covering the entire FM band from 88 to 108MHz and utilizes half wavelength spacing. The 828HPDA series antennas are high power arrays.
The wide variety of possible configurations ensures that the needs of most users will be met in terms of both price and performance.

Features/Benefits

- Directional horizontal radiation pattern
- Low downward radiation
- Rugged stainless steel construction for maximum corrosion protection
- Various power ratings available
- Mixed polarization
- Broadband operation to facilitate antenna sharing
- 828DA and 828HPDA models pressurized
- 828MPDA series designed specifically for un-pressurized operation
- Optional optimal array tuning
- Low windload to minimize tower or mast costs
- Radomes are an available option for all 828DA series
- Temperature range – 40 to + 60 degrees C available

Technical Specifications

Product Line	Antenna Radio
Product Type	Band II (VHF) FM Sidemount Antennas
Frequency Range, MHz	88 - 108
Operating Frequency Ranges, MHz	88 - 98, 94 - 104, 98 - 108
Polarization	Circular
Number of Levels	10
Gain per Plane of Polarization, dBd	9.51
Return Loss, dB	20 Note#1
Input Connector	Single element 7/8" EIA, Array 7/8" EIA; 1-5/8" EIA; 3-1/8" EIA
Power Rating, kW	50 Note#2
Impedance, ohms	50 unbalanced
Weight, kg (lb)	12 (27) Single Bay
Mounting (Standard), mm (in)	Brackets for 60mm (2-3/8) pole mount;Brackets for 90mm (3-1/2) pole mount
Effective Area Front (full antenna), sq m (sq ft)	0.05 (0.54) Single Bay
Effective Area Side (full antenna), sq m (sq ft)	0.19 (2.04) Single Bay
Pressurization Operational, kPa (psi)	10 - 25 (1.5 - 3.6)
Pressurization Test, kPa (psi)	100 (15)

Notes

Note 1 Arrays are factory tuned for a broadband performance and a return loss of 20dB across the specified bandwidth is achieved. Optional factory tuning for optimum narrow band performance will achieve a 30dB return loss over +/- 1MHz from the specified frequency. Arrays may be supplied un-tuned with a resulting return loss of 14dB
Note 2 Array power ratings are limited by the radiator and power divider input connectors used. Typical limits are : 7-16 DIN 3.5kW, 7/8" EIA 5kW, 1-5/8" EIA 10kW and 3-1/8" EIA 40kW
Note 3 Mechanical specifications: For 828MPDA and 828DA the single bay Effective Area Front is 0.05 sq m (0.54 sq ft), Effective Area Side is 0.19 sq m (2.04 sq ft). For 828HPDA, single bay Effective Area Front is 0.06 sq m (0.65 sq ft), Effective Area Side is 0.25 sq m (2.35 sq ft).

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Other Documentation