

Dielectric Resonator Oscillator Model MDR3100

AFC Voltage Tunable 2.5 to 21.0 GHz

Specifications ⁽¹⁾:

Frequency Range: ⁽²⁾	2.5-6.0 GHz	6.0-21.0 GHz
Mechanical Tuning Bandwidth (min.)	±10 MHz	±20 MHz
Stability (max.) ⁽³⁾	5 ppm/°C	5 ppm/°C
Pulling, 12 dB RL (max.)	±100 ppm	±100 ppm
Pushing (max.)	20 ppm/Volt	20 ppm/Volt
Harmonics (max.)	-15 dBc	-15 dBc
Spurious (max.)	-70 dBc	-70 dBc
Output Power (min.) ⁽⁴⁾	+10 dBm	+10 dBm

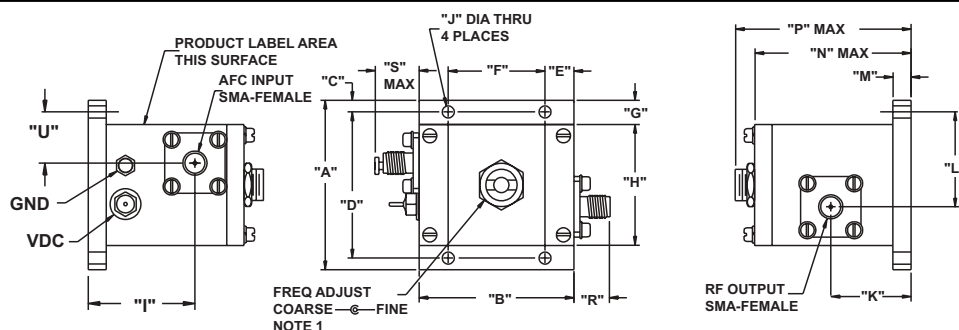
Frequency (GHz)	Outline
2.5 to 5.0	DA3A
4.0 to 10.0	DA2A
10.0 to 14.0	DB1A
14.0 to 21.0	DA6A

Phase Noise (typ.)	3 GHz	6 GHz	12 GHz	20 GHz
10 kHz Offset, dBc/Hz	-103	-97	-91	-83
100 kHz Offset, dBc/Hz	-128	-122	-116	-108
1 MHz Offset, dBc/Hz	-148	-142	-136	-128

AFC Tuning BW (min)	2.5 - 10.0 GHz: 800 ppm 10.0 - 21.0 GHz: 600 ppm
AFC Tuning Voltage ⁽⁵⁾	+2 to +10 VDC
AFC Tuning Impedance	Parallel R-C 10K $\pm$ min./300 pf max
Input DC ⁽⁶⁾	+12 VDC $\pm$ 3% @ 125 mA max.
Operating Temperature	-20 to +65 °C
RF Connector	SMA Female
DC Connector	Solder Pin

Notes:

- Specifications labeled "min." or "max." are guaranteed in a 50 Ohm system over the specified temperature range.
- Output frequency must be specified.
- Averaged over the full temperature range.
- Higher output power is available.
- Other tuning voltages are available.
- Other input voltages are available.
- Package must be verified by Spectrum Microwave.



1. Outline DD4 uses a separate adjustment screw for coarse and fine tune vs. the concentric adjustment shown.

DIMENSIONS: INCHES

DIM	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"	"L"	"M"	"N"	"P"	"R"	"S"	"T"	"U"
OUTLINE																		
"DA2A"	1.75	1.60	.12	1.500	.30	1.000	.25	1.25	.125	.83	.98	.19	1.70	2.00	.38	.40	1.00	.53
"DA3A"	1.75	2.00	.12	1.500	.50	1.000	.25	1.25	.125	.83	.96	.19	1.75	2.00	.38	.40	1.00	.53
"DB1A"	1.65	1.18	.15	1.350	.22	.750	.32	1.00	.125	.84	.77	.19	1.55	1.55	.38	.40	.89	.77
"DA6A"	1.65	1.46	.15	1.350	.36	.726	.32	1.00	.140	.83	.71	.16	1.55	1.70	.38	.40	.83	.71

DIMENSIONS: METRIC

DIM	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"	"L"	"M"	"N"	"P"	"R"	"S"	"T"	"U"
OUTLINE																		
"DA2A"	44.5	40.6	3.0	38.10	7.6	25.40	6.4	31.8	3.2	21.1	24.9	4.8	43.2	50.8	9.7	10.2	25.4	13.5
"DA3A"	44.5	50.8	3.0	38.10	12.7	25.40	6.4	31.8	3.2	21.1	24.4	4.8	44.5	50.8	9.7	10.2	25.4	13.5
"DB1A"	41.9	30.0	3.8	34.29	5.6	18.42	8.1	25.4	3.2	21.3	19.6	4.8	39.4	39.4	9.7	10.2	22.6	19.6
"DA6A"	41.9	37.1	3.8	34.29	9.1	18.44	8.1	25.4	3.6	21.1	18.0	4.0	39.4	43.2	9.7	10.2	21.1	18.0

All dimensions are in inches and [mm].