

AQSR1100D-FC



RF Driver/Amplifier with Soft-Start

PRELIMINARY DATA

1106

The AQSR1100D-FC is a combined waveform generator, RF oscillator, and dual 100W power amplifier supplied in an industry standard 19" '3U' rack with integral DC power supply.

This driver features Isomet's "Soft-Start" RF amplitude control and is well suited to driving acousto-optic Q-switches such as the Isomet Q1083 series. The Soft-Start technique applies a mix of digital and analog modulation signals to control the RF amplitude. Almost any envelope or ramp shape can be programmed. The output timing and pulse widths are determined by an internal PLL waveform generator or by user supplied external signal(s).

Driver protection includes; high VSWR shutdown, opto-isolated digital inputs, internal and external over temperature interlocks. The external interlock is provided for connection to the AO device thermal switch. RF output enable inputs are also provided.

Output status bits are supplemented by LED's, indicating the operating condition of the driver and associated Q-switch. The maximum RF output power is adjusted by means of a pre-set potentiometer.

Model Selection:

	<u>Freq</u>	<u>Option</u>	
AQSR1080	- FC	- x	
24.0MHz	24	-	Air cooled
27.12MHz	27	W	Water cooled
40.68MHz	40		

SPECIFICATION

Power Output	:	> 100 Watts Max CW per channel
Load Impedance	:	50Ω
Harmonic Distortion	:	>20dB below fundamental
Mismatch Tolerance	:	The Driver will not oscillate
Centre Frequency fc	:	As requested
Frequency stability	:	± 0.003%
Frequency accuracy	:	± 0.005%
Modulation Control Voltages		
Digital	:	Opto-isolated 15mA max.
RF On/off Ratio	:	40dB below full power
Output Switching Speed	:	< 100nsec Rise/ < 50nsec Fall, 0 to 90 Watts
Interlock (Input)	:	Open OFF, closed ON
Power Supply	:	110-250Vac, < 3A
Temperature Range	:	0° to 60°C, Thermal Shutdown Interlock
Qualifications	:	CE and roHS

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

ISOMET CORP, 5263 Port Royal Rd, Springfield, VA 22151, USA.

Tel: (703) 321 8301 Fax: (703) 321 8546

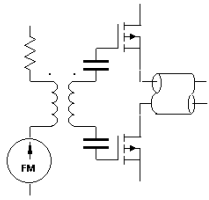
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Quality Assured.

In-house: RF & Digital design

Software Development

OEM manufacture



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Outputs

RF : BNC
 Monitor signals * : 9 pin 'D' type Female
 (* Voltages \equiv forward and reflected RF power, thermistor impedance \equiv temperature)

Input Control signals : 25 pin 'D' type Female

Pin	Signal	Pin	Signal
1	Slope/Modulation Start	14	Analog Modulation Input
2	Internal/External Rep Rate Select	15	Analog Voltage Output
3	External Rep Rate Input	16	Isolated 0V input, (opto supply)
4	Internal/External Dig'l Mod'n Select	17	Gnd
5	Digital Modulation Input	18	Isolated 0V input, (opto supply)
6		19	Gnd
7		20	Isolated 0V input, (opto supply)
8	AOQ Thermal Interlock Input 2	21	Isolated 0V input, (opto supply)
9	AOQ Thermal Interlock Input 1	22	Isolated 0V input, (opto supply)
10	Status Bit 1	23	Slope Enable
11	Status Bit 2	24	Reset
12	Status Bit 3	25	RF Enable
13	Status Bit 4		

* Isolated 5Vdc supply is provided for the all opto-isolated interface and control inputs

User Controls

Function	Adjustment	Specification
Rep Rate	8-bit via 2 Hex Rotary Switches plus Range Select Switch	1 – 120KHz
Pulse Width	8-bit via 2 Hex Rotary Switches	1 – 16.5 usec
RF On/Off RF CW/Modulated Rep-Range Select (2) Slope-Range Select Osc Select	DIL 6-way Lever Switch	Select Function
Waveform Shape	1 of 16 via Hex Rotary Switch	EPROM stored
Shape Period	24 turn potentiometer plus Range Select Switch	18usec – 13.7msec
RF Power	24 turn potentiometer	< 25% - 100%

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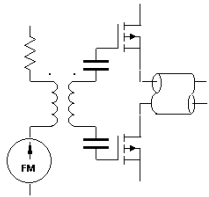
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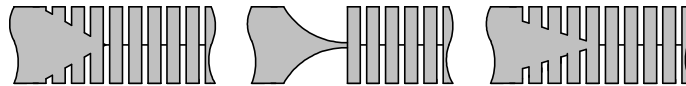


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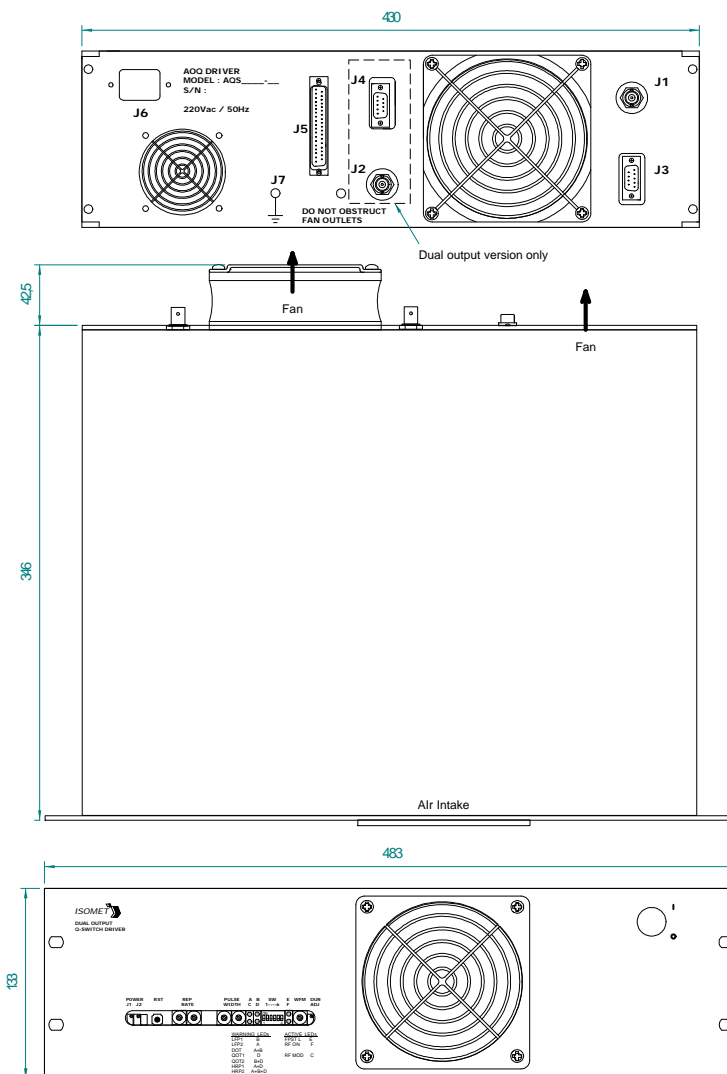
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Typical Output RF Envelopes



Outline Drawing (Dimensions : mm)



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