Sintec Optronics

AOM Driver 2910 Series 1 to 4 Watt RF Drivers for Acousto-Optic Modulators

The 2910 Series RF driver provides up to 4 Watts output power. Various types cover a frequency range of 80 to 350MHz. The maximum RF output power is adjustable by an internal potentiometer. The driver is available in either analogue or digital modulation control. The analogue modulation voltage controls the output power from 0 to 100% of the adjusted maximum power. The digital modulation control signal can switch on and off the RF power.

The driver can be operated with modulation frequencies (analogue and digital) up to 25% of the carrier frequency and 50 MHz maximum at the higher carrier frequencies. Optimum EMC shielding and mechanical protection is achieved by an aluminium casing. The base plate serves for mounting and heat dissipation purposes.

Key Features:

- Frequency range 80 to 350 MHz
- RF output power up to 4 Watt
- RF on/off ratio 60 dB (Digital Modulation)
- RF on/off ratio 50 dB (Analogue Modulation)
- Constant output power design
- Models with a modulation frequency up to 50MHz available
- Conductive cooling through base plate
- Compact casing

Applications:

- Fast modulation components for extra cavity applications, e. g. laser projection systems
- Frequency shifting

Technical Specifications:

Supply voltage	+24V DC
Supply current	600 mA (nominal) with Pout = 1.0 W 625 mA (nominal) with Pout = 1.5 W 775 mA (nominal) with Pout = 2.5 W 825 mA (nominal) with Pout = 3.0 W 900 mA (nominal) with Pout = 4.0 W 2700 mA (nominal) with Pout = 20 W*
Output impedance	50 (nominal)
Maximum RF power (adjustable)	< 0.1 W … > Pout
Frequency accuracy	± 0.1%
Harmonic distortion**	≤ -20 dBc***
Analogue modulation impedance Voltage range @50 RF ON/OFF ratio	50 (nominal) 0 … +1 V ≥ 50 dB****
Digital modulation Impedance Level RF ON / OFF ratio	75 (nominal)***** Standard TTL ≥ 60 dB
RF output frequencies	80, 110, 150, 200, 260 & 350 MHz
RF rise/fall times (Rise=10% to 90%) (Fall=90% to 10%)	12 nsec @ 80 MHz 9 nsec @ 110 MHz 7 nsec @ 150 MHz 5 nsec @ 200 MHz 4 nsec @ 260 MHz 4 nsec @ 350 MHz

* A 20 W version available using external amplifier.
** Into 50 load
*** Part numbers -16 and -17 are ≤ -15 dBc
**** Part numbers -12, -14 and -16 are 45 dB
***** Part number -11 is 600 (nominal)

Connectors

RF output connector : SMA (female)
Modulation connector: SMC (male)
Power Supply connector:
Input: Solder terminal (filtered feed-thru)
Ground: Solder lug

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Cooling, Dimensions, Weight

Cooling	Conduction Base plate should be attached to suitable heat sink capable of dissipating
1.0 W - 1.5 W	15 W
2.5 W - 3.0 W	20 W
4.0 W	22 W
Dimensions inches [mm] L x W x H	4 x 1.12 x 3.15 [102 x 29 x 80]
Weight lbs [kg]	0.53 [0.24] (nominal)

Environmental Conditions

Warn-up Time	5 minutes (nominal)
Base Plate Temperature	0C to +60C. For optimum output power stability constant base plate temperature should be provided
Storage Temperature	-25C to +85C (non condensing)

Absolute Maximum Ratings

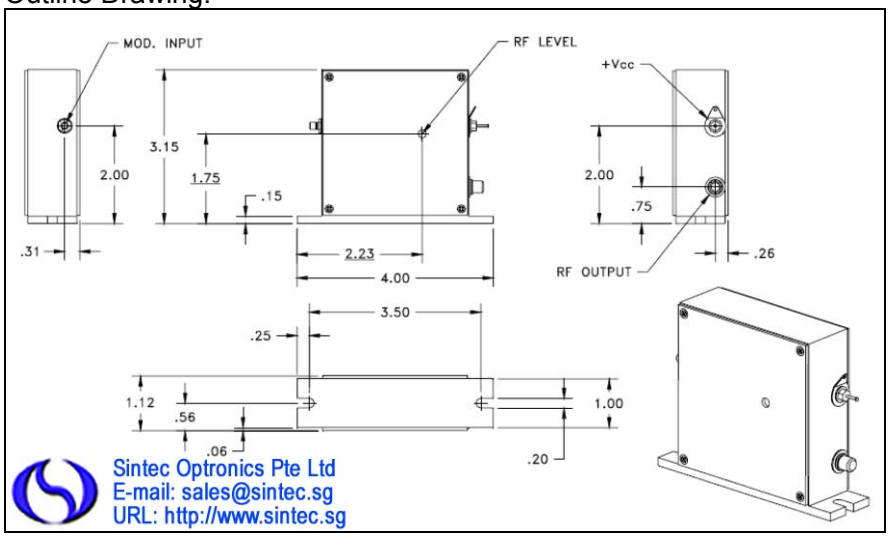
Supply Voltage	+28 VDC
Analogue Modulation	-1.5 V to +1.5 V
Digital Modulation	-0.5 V to +2.75 V
Operating Temperature	+65 C (base plate temperature)

Quality Standards

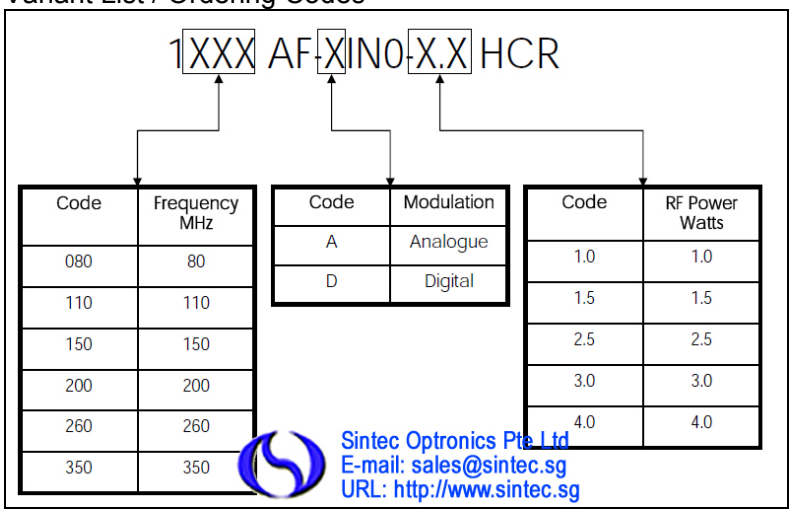
EU 2002/95/EC (RoHS): Compliant

Burn-in: 12 Hours min @ +25 C and Pout

Outline Drawing:



Variant List / Ordering Codes



Other Frequencies and customized versions available upon request.