

## Features

- Low phase noise
- Fixed frequency applications
- Surface mount package

## Description

The MASY-007715-11300 provides a 1300 MHz output phase locked to an external reference signal. The fully integrated design incorporates a VCO, PLL and loop filter. Frequency control is handled internally by a microcontroller. This is all contained within a convenient surface mount package.

## Electrical Specification

(Applies over the frequency range @ +25 °C, output and input load impedance of 50 ohms. Unless otherwise stated limits & conditions are indicated values.)

Parameter	Min	Typ	Max	Units	Condition
Frequency		1300		MHz	Over T <sub>OP</sub> - See Note 1.
RF Output power	+9	+12	+15	dBm	
Output Return Loss		12		dB	
Output Harmonics		-35	-20	dBc	
Spurious		-70	-60	dBc	
Phase Noise (Noise <= 1kHz offset dependent upon external reference)		-90		dBc/Hz	Offset 1kHz
		-100	-95	dBc/Hz	Offset 10kHz
		-125	-120	dBc/Hz	Offset 100kHz
		-143	-135	dBc/Hz	Offset 1MHz
External Ref		100		MHz	See Note 2. Alternative reference frequencies available, contact factory for details
Lock Monitor	DV <sub>CC</sub> - 0.4		DV <sub>CC</sub>	Volt	In Lock
	0		0.4	Volt	Out of Lock
AV <sub>CC</sub> DC Supply voltage	+4.75	+5	+5.25	Volt	
AV <sub>CC</sub> DC Current		70	85	mA	AV <sub>CC</sub> = +5V
DV <sub>CC</sub> DC Supply voltage	+4.75	+5	+5.25	Volt	
DV <sub>CC</sub> DC Current		15	25	mA	DV <sub>CC</sub> = +5V

**Note 1:** T<sub>OP</sub> = -40°C ~ +85°C Case operating temperature

**Note 2:** External Reference, 0dBm min input power, with stability of 20 ppm (max) over temperature.

**Reference phase noise:** -98 dBc/Hz @ 10 Hz, -110 dBc/Hz @ 100 Hz, -120 dBc/Hz @ 1 kHz

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**Pin Assignment**

Pin Number	Assignment
1	DV <sub>CC</sub>
4	LD (Lock Detect)
8	REF_IN (Reference Input)
11	NC (No Connection)
14	RF_Out
16	AV <sub>CC</sub>
5,6,7,8	NC or GND
All other pins	GND
Lid	GND

**Environmental**

Parameter	Min	Max	Units
Case Operating Temperature (T <sub>OP</sub> )	-40	+85	°C
Storage Temperature	-45	+120	°C

**Mechanical**

