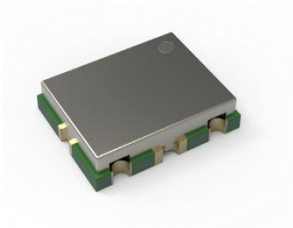
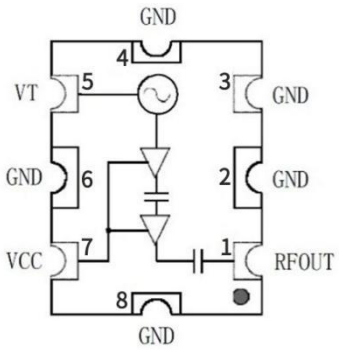
Features



- Standard Frequency Range：300~600MHz@VT=0V～5V
- Output Power：≥9dBm @VCC=5V
- Ripple(BW≤200MHz)：±0.5dB
- Supply Voltage(VCC)：4.2V～6V
- Supply Current：17mA@VCC=5V
- Harmonic Suppression(2nd)：≤-10dBc
- Harmonic Suppression(3rd)：≤-20dBc
- No External Components Needed
- 50Ω Load Impedance
- 7mm×9mm×2mm SMT Package



Product Description

The YSGM30060008 voltage-controlled oscillator (VCO) employs a highly stable oscillation circuit design ,delivering high output power and superior isolation. It is powered by a standard 5V supply, with compatibility across a 4.2 to 6V range.Featuring an extensive tuning voltage span of 0-5V, it facilitates broadband frequency output. The built-in filter and impedance matching circuit minimizes the need for external components while ensuring consistent output power stability. The oscillator's output is readily connectable to a 50Ω load. Encased in a compact 7mm×9mm×2mm package, the device is designed for ease of integration and space efficiency.

Pin Description

Pin	Symbol	Function	Pin	Symbol	Function
1	RFOUT	RF output	5	VT	Tune voltage
2	GND	Ground	6	GND	Ground
3	GND	Ground	7	VCC	Supply voltage
4	GND	Ground	8	GND	Ground

Absolute Maximum Ratings

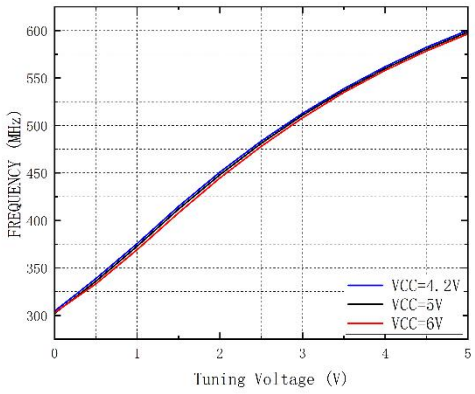
Parameter	Rating	Unit	Parameter	Rating	Unit
Tune Voltage	0 ~ 5	V	Storage Temperature	-40 ~ +150	°C
Supply Voltage	4.2~ 6	V	Relative Humidity	＜80%	RH
Operating Ambient Temperature	-40 ~ +85	°C	Atmospheric Pressure	85 ~ 106	KPa

Electrical Specifications（T=+25°C，VCC=5V）

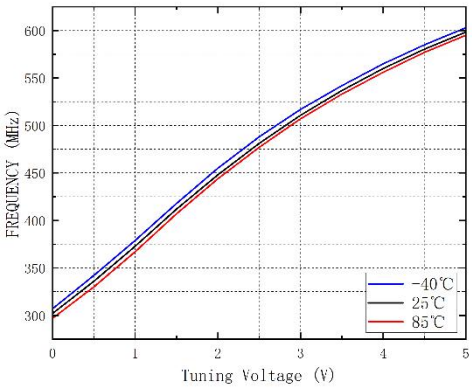
Specification				Unit	Condition
	Min.	Typ.	Max.		
Lower Frequency	290	300	310	MHz	VT=0V
Upper Frequency	590	600	610	MHz	VT=5V
Power Output		+9		dBm	VCC=5V
Tune Voltage	0		5	V	
Supply Current		17		mA	Open&Load
Leakage Current(VT)			10	μA	VT=5V
Pushing（VCC）		2		MHz/V	VT=5V
Pulling（VSWR）		2		MHz pp	VSWR=3:1
Drift Rate		0.06	0.08	MHz/°C	
Load Impedance		50		Ω	
Harmonic(2nd)			-10	dBc	
Harmonic(3rd)			-20	dBc	

Typical Performance

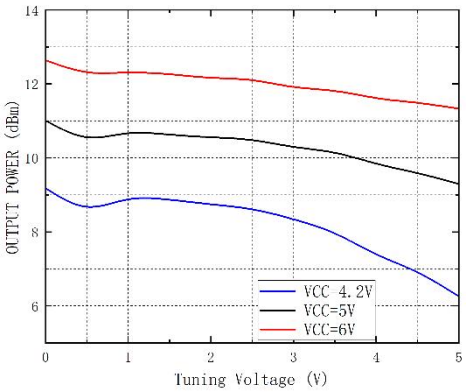
Frequency vs. Tuning Voltage vs. Operating Voltage



Frequency vs. Tuning Voltage vs. Temperature

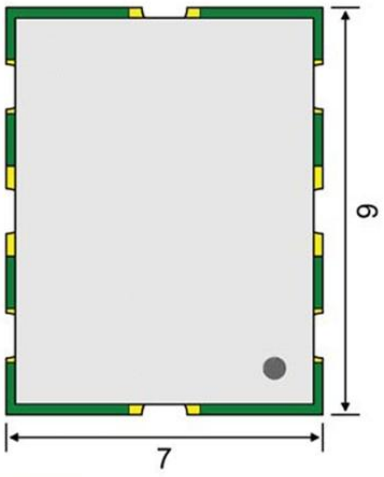


Power vs. Tuning Voltage vs. Operating Voltage

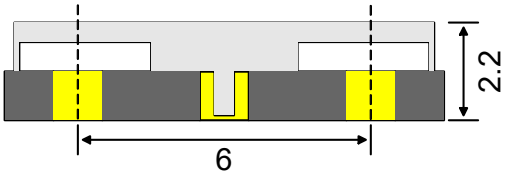


Outline Drawing

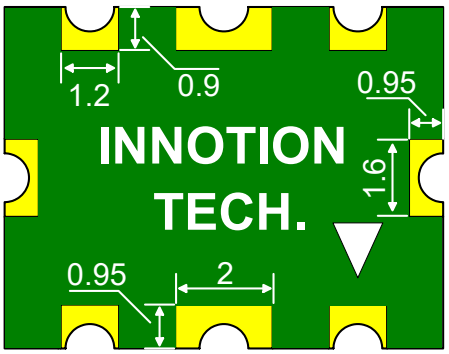
TOP VIEW



SIDE VIEW



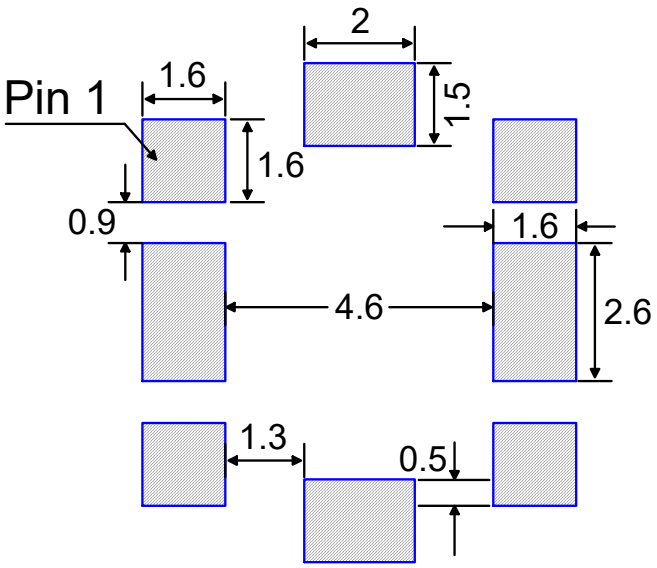
BOTTOM VIEW



UNIT: mm

TOLERANCE: ±0.1mm

PCB Land Pattern



UNIT: mm