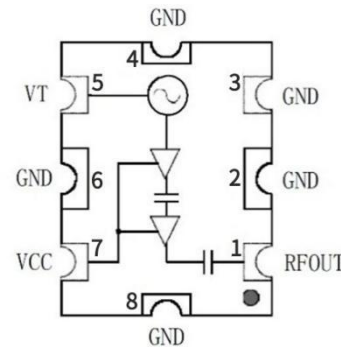
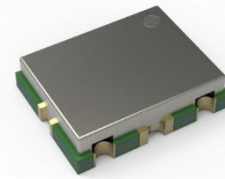


## Features

- Standard Frequency Range: 290~500MHz@VT=0V~5V
- Output Power:  $\geq 9\text{dBm}$  @VCC=5V
- Ripple(BW $\leq 200\text{MHz}$ ):  $\pm 1\text{dB}$
- Supply Voltage(VCC): 4.2V~6V
- Supply Current: 15mA@VCC=5V
- Harmonic Suppression(2nd):  $\leq -8\text{dBc}$
- Harmonic Suppression(3rd):  $\leq -20\text{dBc}$
- No External Components Needed
- 50  $\Omega$  Load Impedance
- 7mm $\times$ 9mm $\times$ 2mm SMT Package



## Product Description

The YSGM32047008 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 3 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 50 $\Omega$  load. Encased in a compact 7mm $\times$ 9mm $\times$ 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

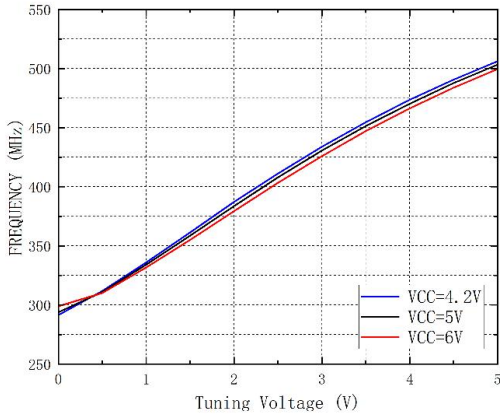
Parameter	Rating	Unit	Parameter	Rating	Unit
Tune Voltage	0 ~ 5	V	Storage Temperature	-40 ~ +150	°C
Supply Voltage	4.2~ 6	V	Relative Humidity	<80%	RH
Operating Ambient Temperature	-40 ~ +85	°C	Atmospheric Pressure	85 ~ 106	KPa

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

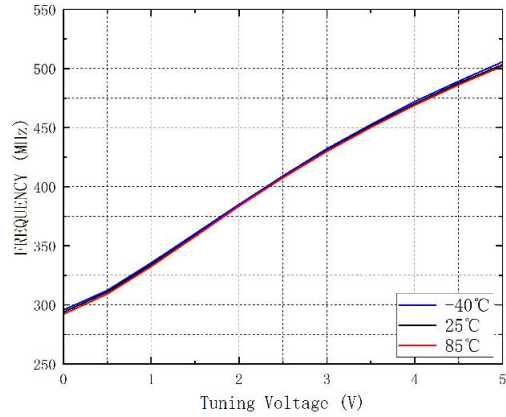
Specification				Unit	Condition
	Min.	Typ.	Max.		
Lower Frequency	285	290	295	MHz	VT=0V
Upper Frequency	495	500	505	MHz	VT=5V
Power Output		+9		dBm	VCC=5V
Tune Voltage	0		5	V	
Supply Current		15		mA	Open&Load
Leakage Current(VT)			12	μA	VT=5V
Pushing (VCC)		3		MHz/V	VT=5V
Pulling (VSWR)		6		MHz pp	VSWR=3:1
Drift Rate		0.02	0.04	MHz/°C	
Load Impedance		50		Ω	
Harmonic(2nd)			-8	dBc	
Harmonic(3rd)			-20	dBc	

**Typical Performance**

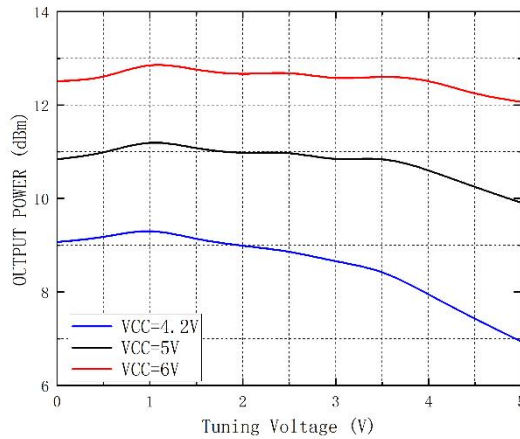
**Frequency vs. Tuning Voltage vs. Operating Voltage**



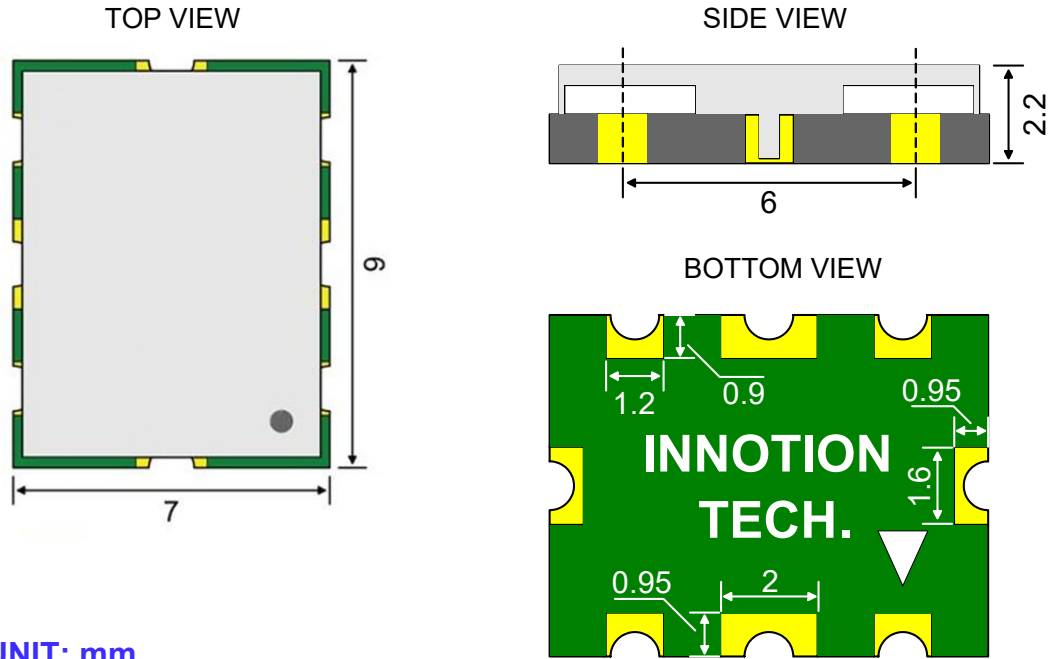
**Frequency vs. Tuning Voltage vs. Temperature**



**Power vs. Tuning Voltage vs. Operating Voltage**



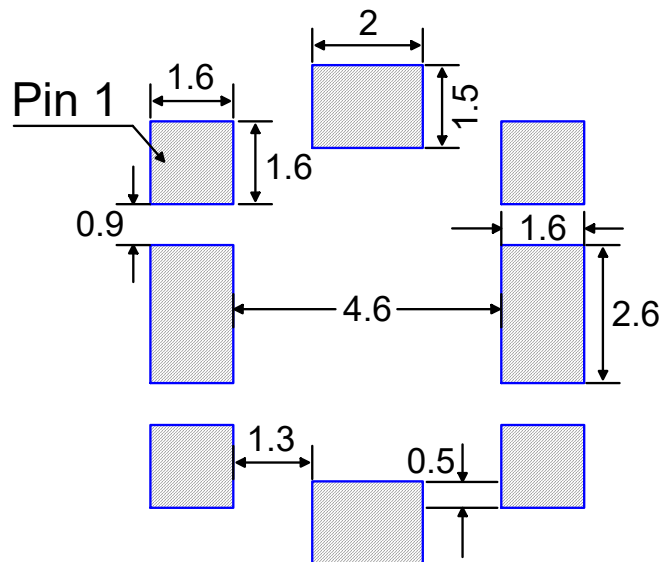
**Outline Drawing**



**UNIT: mm**

**TOLERANCE: ±0.1mm**

**PCB Land Pattern**



**UNIT: mm**