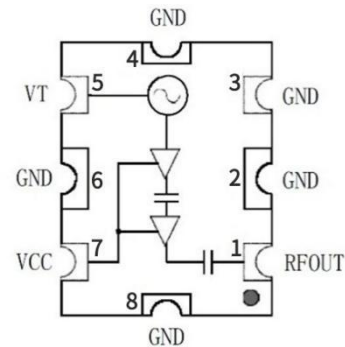
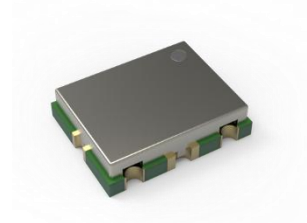


Features

- Standard Frequency Range: 485~645MHz@VT=0V~5V
- Output Power: $\geq 9\text{dBm}$ @VCC=5V
- Ripple(BW $\leq 200\text{MHz}$): $\pm 0.5\text{dB}$
- Supply Voltage(VCC): 4.2V~6V
- Supply Current: 18mA@VCC=5V
- Harmonic Suppression(2nd): $\leq -9\text{dBc}$
- Harmonic Suppression(3rd): $\leq -24\text{dBc}$
- No External Components Needed
- 50 Ω Load Impedance
- 7mm $\times$ 9mm $\times$ 2mm SMT Package



Product Description

The YSGM050608 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 50 Ω 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

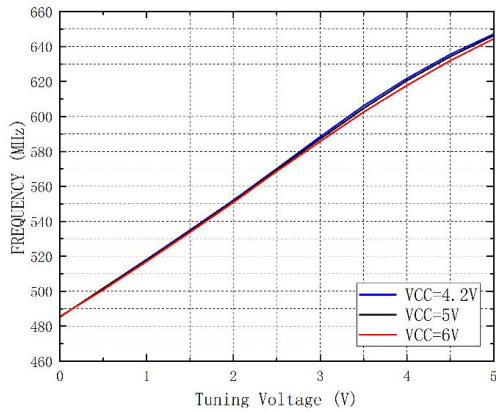
Parameter	Rating	Unit	Parameter	Rating	Unit
Tune Voltage	0 ~ 5	V	Storage Temperature	-40 ~ +150	°C
Supply Voltage	4.2~ 6	V	Relative Humidity	<80%	RH
Operating Ambient Temperature	-40 ~ +85	°C	Atmospheric Pressure	85 ~ 106	KPa

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

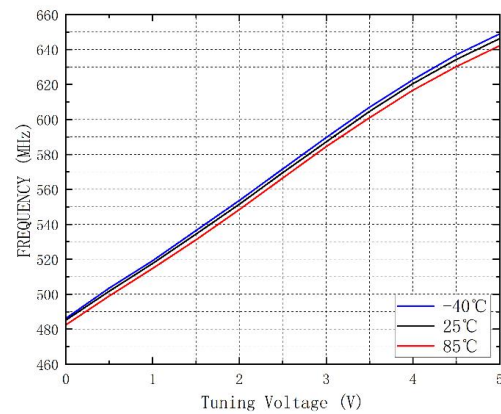
Specification				Unit	Condition
	Min.	Typ.	Max.		
Lower Frequency	480	485	490	MHz	VT=0V
Upper Frequency	640	645	650	MHz	VT=5V
Power Output		+9		dBm	VCC=5V
Tune Voltage	0		5	V	
Supply Current		18		mA	Open&Load
Leakage Current(VT)			12	μA	VT=5V
Pushing (VCC)		1.4		MHz/V	VT=5V
Pulling (VSWR)		1.2		MHz pp	VSWR=3:1
Drift Rate		0.03	0.06	MHz/°C	
Load Impedance		50		Ω	
Harmonic(2nd)			-9	dBc	
Harmonic(3rd)			-24	dBc	

Typical Performance

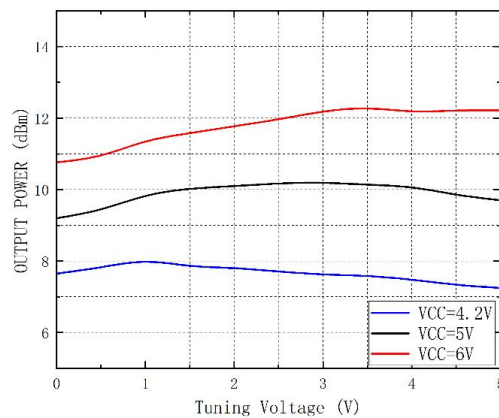
Frequency vs. Tuning Voltage vs. Operating Voltage



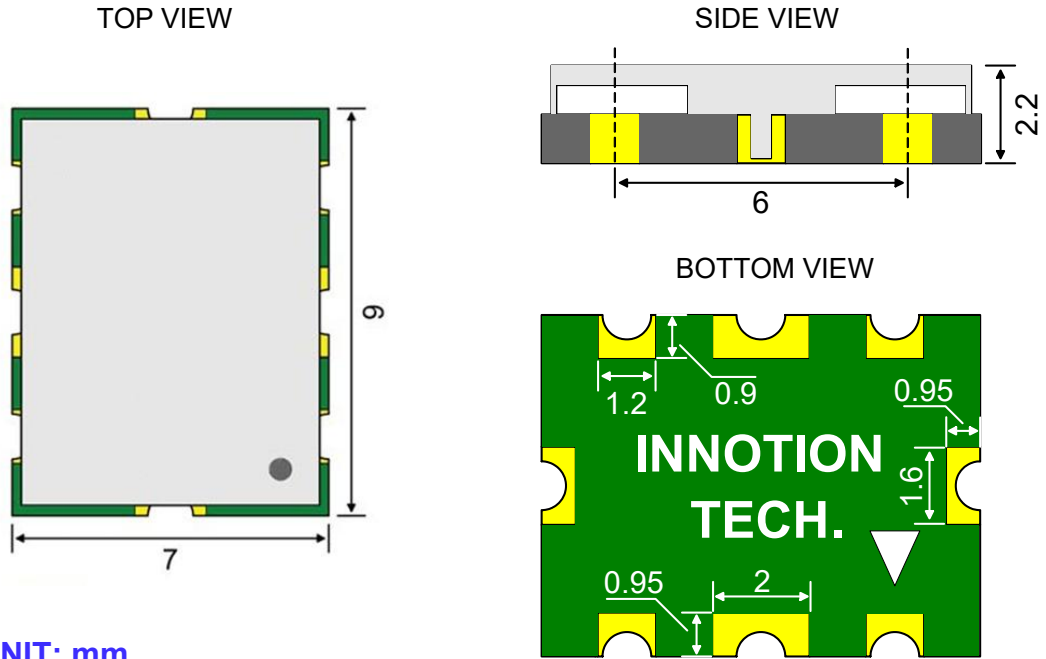
Frequency vs. Tuning Voltage vs. Temperature



Power vs. Tuning Voltage vs. Operating Voltage



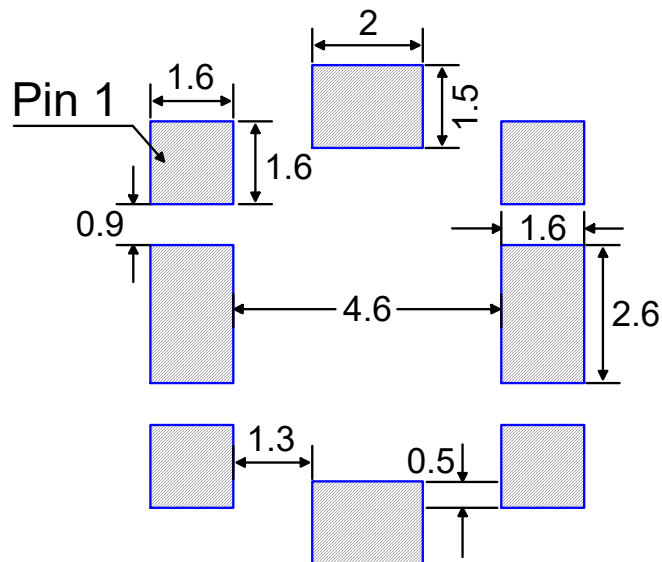
Outline Drawing



UNIT: mm

TOLERANCE: $\pm 0.1\text{mm}$

PCB Land Pattern



UNIT: mm