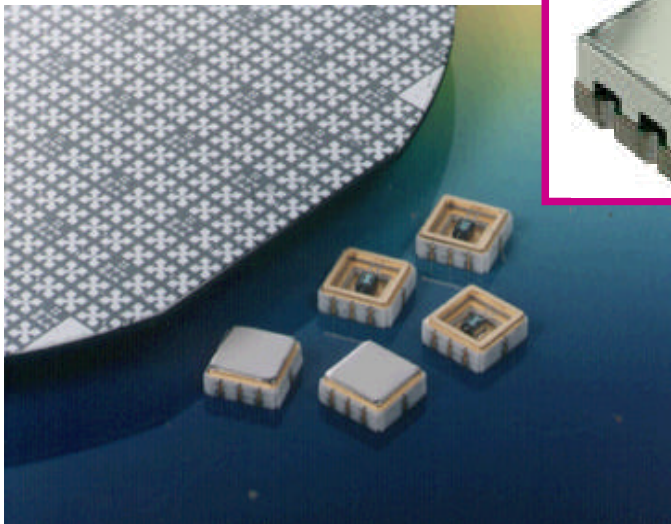


VCSO and Frequency Control Devices

Up to 40G Applications

Using our state of the art technology of Diamond SAW devices

2.5G VCSO
New Release!



VCSO for PLL Clock Data Recovery

VCSO for Clock Jitter Filter

Retiming Filter for Clock Data Recovery

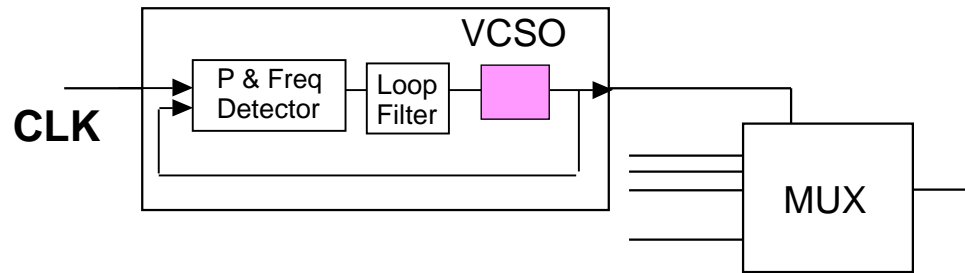
Bandpass Filters for Spurious Cut

SUMIWAVE [®]

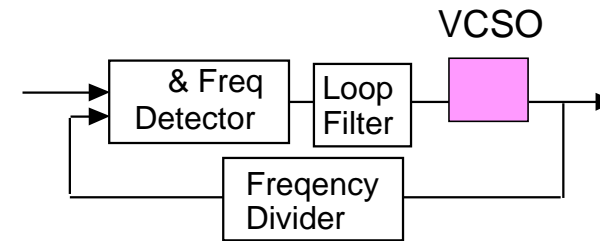
Sumitomo Electric U.S.A., Inc.
Sumitomo Electric Europe Ltd.
Sumitomo Electric Industries Ltd.

APPLICATIONS

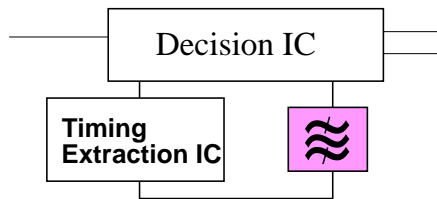
Clock Jitter Filter



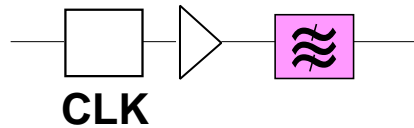
Frequency Translator



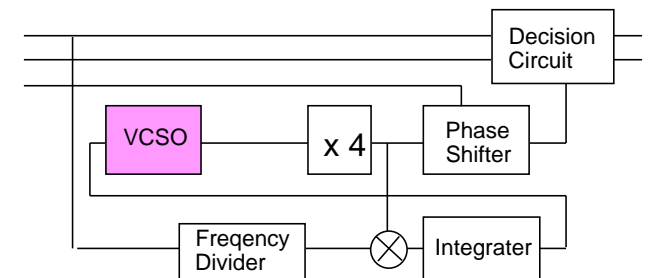
Clock Data Recovery using Retiming filter



Clock Spurious cut



Clock Data Recovery using PLL circuit



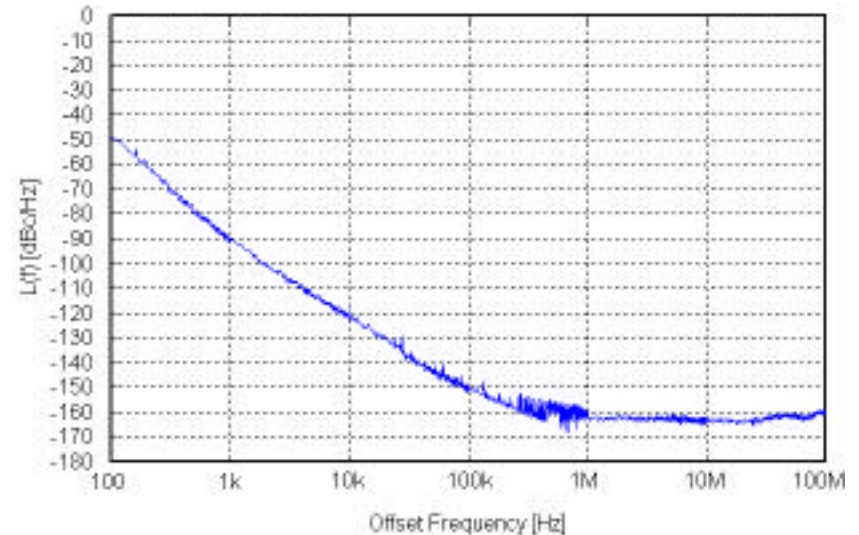
Voltage Controlled SAW Oscillator

VCSO for 40G application !



10 x 10 x 3.8 mm

Small Phase Noise
Compact Size



Absolute Maximum Ratings

Parameter		Rating	Units
Supply Voltage	V _{cc}	3.6	V
Control Voltage	V _c	4.0	V

Performance Characteristics

Parameter		Typical	Units
Center Frequency	f _o	2488.32	MHz
Operating Temperature	T _c	-40 ~ 85	C
Supply Current	I _{cc}	32	mA
Supply Voltage	V _{cc}	3	V
Tuneable Frequency Range	f Δ	-330 ~ 140	ppm
Output Level	P _o	7	dBm
Spurious Suppression	SP	-35	dBc
Control Voltage Range	V _c	0 ~ 3	V

Product Series of VCSO

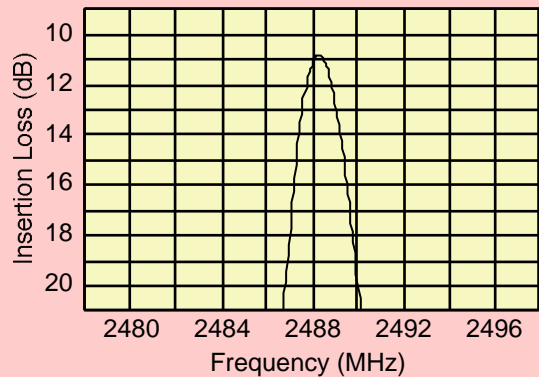
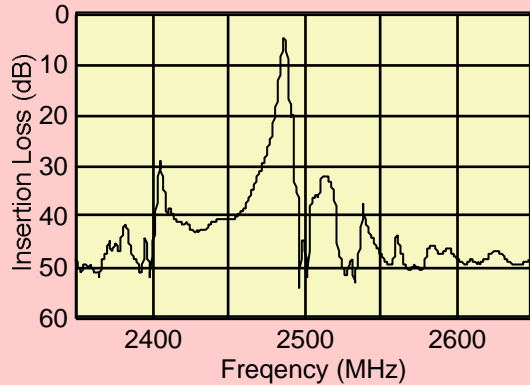
Frequency (MHz)
2488.32
2578.125
2666.057
2677.25

We customize your frequency!

Resonators for VCISO

2.5GHz Series

Frequency Characteristics

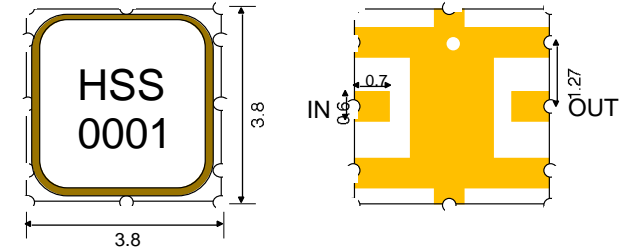
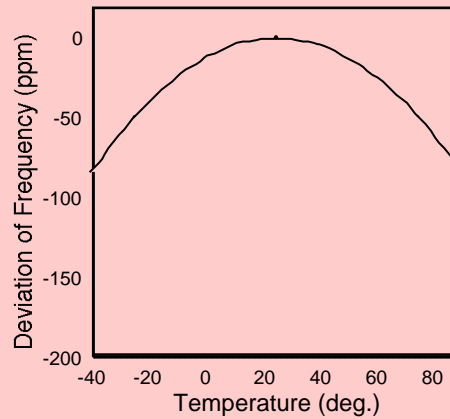


Specifications

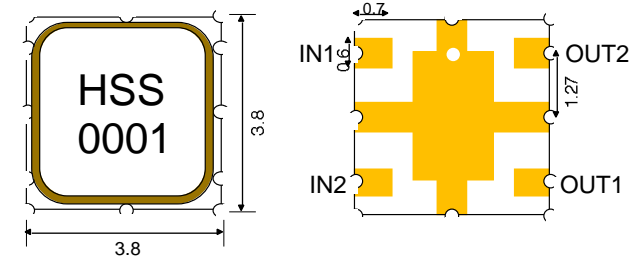
Frequency	2488.32 MHz
Insertion Loss	5.3 ~ 11dB
50 ohm Loaded Q	700 ~ 1400
Freq. Deviation	< 100 ppm (-40 ~ 85 deg.)
PKG Size	L 5.0 mm W 5.0 mm H 1.8 mm
	L 3.8 mm W 3.8 mm H 1.7 mm

Note : Without external impedance matching circuit

Temperature Characteristics (Typical)



2-Terminal (3.8 mm)



4-Terminal (3.8 mm)

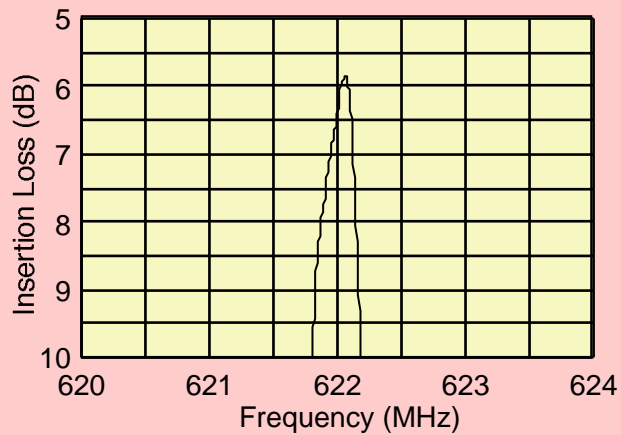
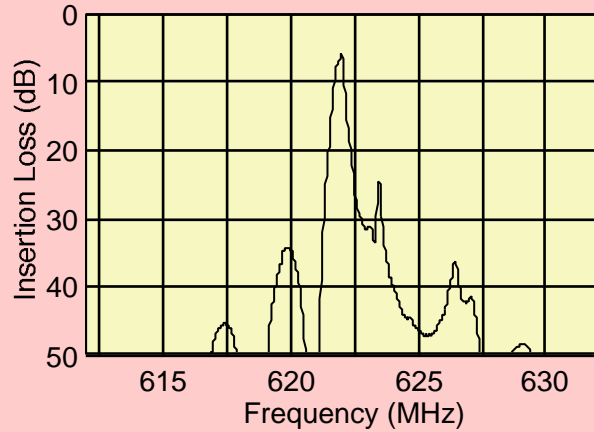
Product Series of VCISO

Frequency (MHz)
2488.32
2578.125
2666.057
2677.25
3125.00
3317.76

We customize your frequency!

Resonators for VCISO

Frequency Characteristics

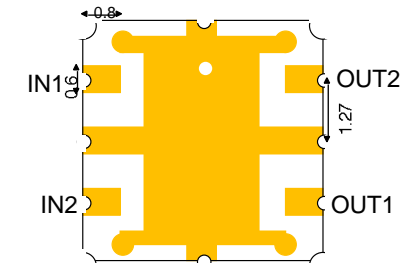
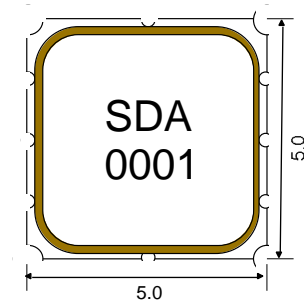


600MHz Series

Specifications

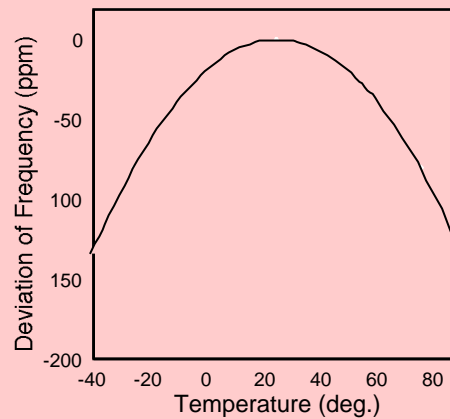
Frequency	622 MHz
Insertion Loss	5.9 ~ 10dB
50 ohm Loaded Q	1000 ~ 6000
Freq. Deviation	< 150 ppm (-40 ~ 85 deg.)
PKG Size	L 9.1 mm W 4.8 mm H 1.5 mm

Note : Without external impedance matching circuit



4- Terminal Surface-Mount Ceramics Package
(unit: mm)

Temperature Characteristics (typical)



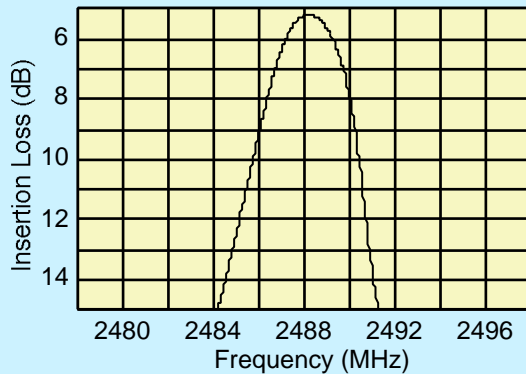
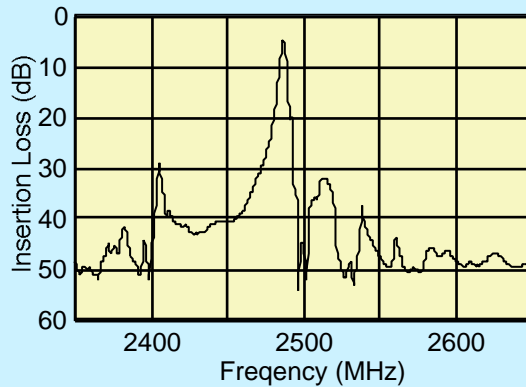
Product Series of VCISO

Frequency (MHz)
622.0800
625.0000
644.5313
666.5143
669.3125

We customize your frequency!

Filters for Retiming and Clock Spurious Cut

Frequency Characteristics



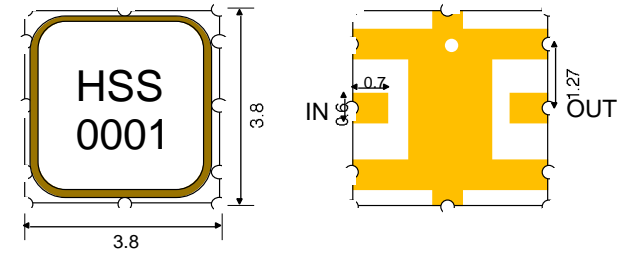
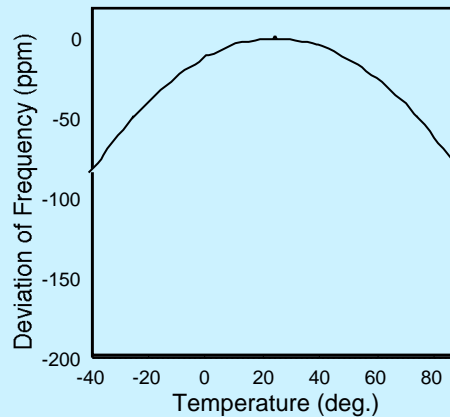
2.5GHz Series

Specifications

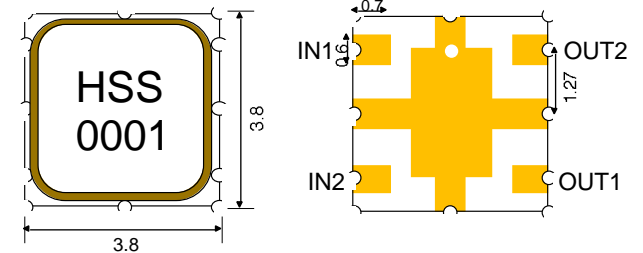
Frequency	2488.32 MHz
Insertion Loss	5 ~ 10dB
50 ohm Loaded Q	500 ~ 1000
Freq. Deviation	< 100 ppm (-40 ~ 85 deg.)
PKG Size	L 5.0 mm W 5.0 mm H 1.8 mm
	L 3.8 mm W 3.8 mm H 1.7 mm

Note : Without external impedance matching circuit

Temperature Characteristics (Typical)



2-Terminal (3.8 mm)



4-Terminal (3.8 mm)

Product Series of VCSO

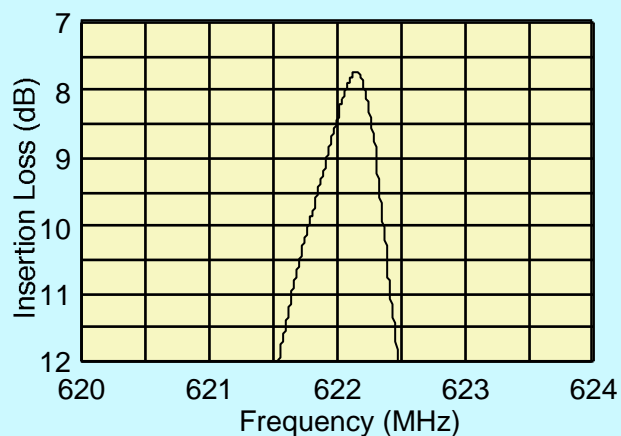
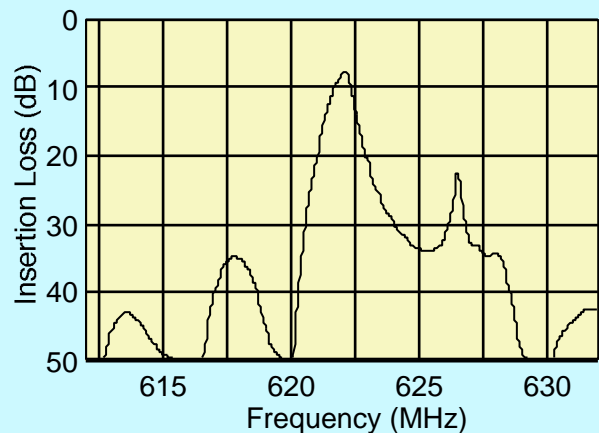
Frequency (MHz)
2488.32
2578.125
2666.057
2677.25
3125.00
3317.76

We customize your frequency!

Filters for Retiming and Clock Spurious Cut

600MHz Series

Frequency Characteristics

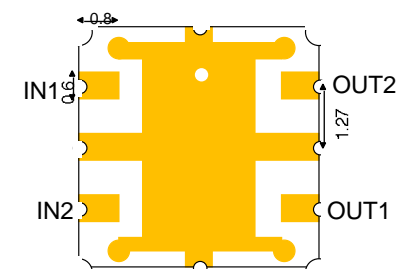
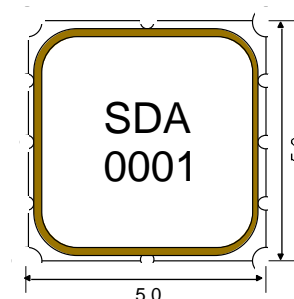
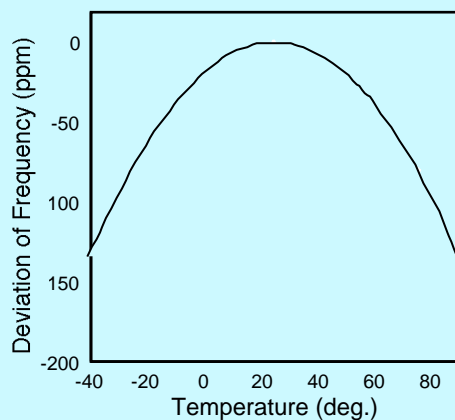


Specifications

Frequency	622 MHz
Insertion Loss	3 ~ 8 dB
50 ohm Loaded Q	500 ~ 2000
Freq. Deviation	< 150 ppm (-40 ~ 85 deg.)
PKG Size	L 5.0 mm W 5.0 mm H 1.8 mm

Note : Without external impedance matching circuit

Temperature Characteristics (typical)



4- Terminal Surface-Mount Ceramics Package
(unit: mm)

Product Series of VCSO

Frequency (MHz)
622.0800
625.0000
644.5313
666.5143
669.3125

We customize your frequency!

Contact information

USA

Masaki Nagai and Paul Burghardt

Email: mnagai@sumitomo.com, paul.burghardt@sumitomo.com

Phone: 914-467-6014 FAX : 914-467-6081

Sumitomo Electric U.S.A. Inc.

TEL:914-467-6014, 6021 FAX:914-467-6081

One North Lexington Avenue,16th Fl.

White Plains, N.Y. 10601

EC

Takayuki Kuze and Ian West

Email: t.kuze@sumielectric.com, i.west@sumielectric.com

Phone: +44 (0) 20 8953 4184 FAX : +44 (0) 20 8207 5950

Sumitomo Electric Europe Ltd.

220 Centennial Av. Elstree, Herts. WD6 3SL UK

**ASIA
Other
Area**

Yoshihiro Takeda

E-mail: Takeda-Yoshihiro@sei.co.jp

Phone:+ 81-727-71-0934 Fax :+81-727-71-2072

Sumitomo Electric Industries, Ltd.

1-1-1 Koya-kita Itami, 664-0016 JAPAN

JPN

Toshiaki Saka

E-mail: saka-toshiaki@sei.co.jp

Phone: 03-3423-5297 Fax: 03-3423-5302

Sumitomo Electric Industries, Ltd.

1-3-12 Moto-Akasaka, Minato-ku, 107-8468 JAPAN