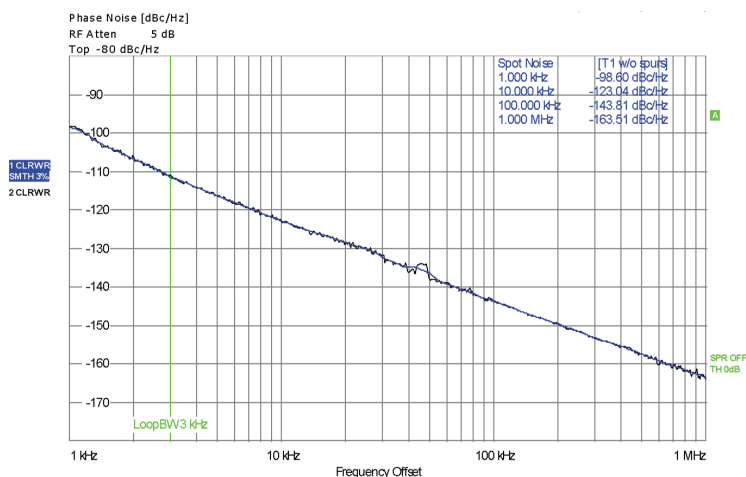
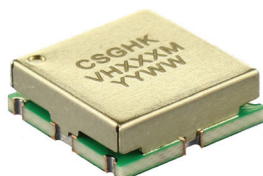


## SURFACE MOUNT MODEL VOLTAGE CONTROLLED OSCILLATOR

Frequency 221-248MHz

VH248D



### FEATURES

- ▶ Miniature Size
- ▶ Surface Mount Package
- ▶ Low Phase Noise Performance
- ▶ Electrically Shielded
- ▶ Highly Linear Tuning

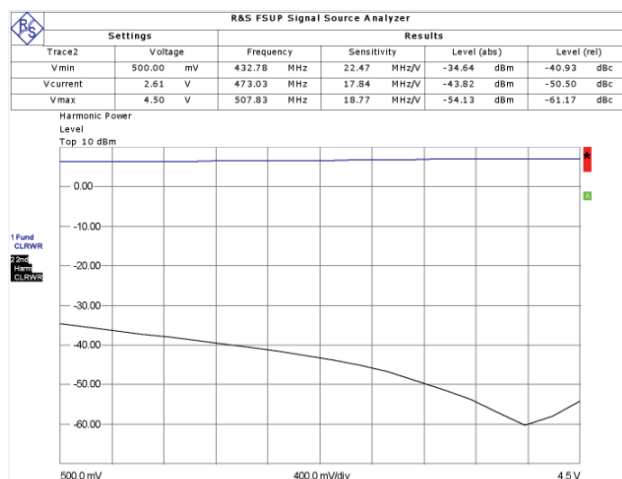
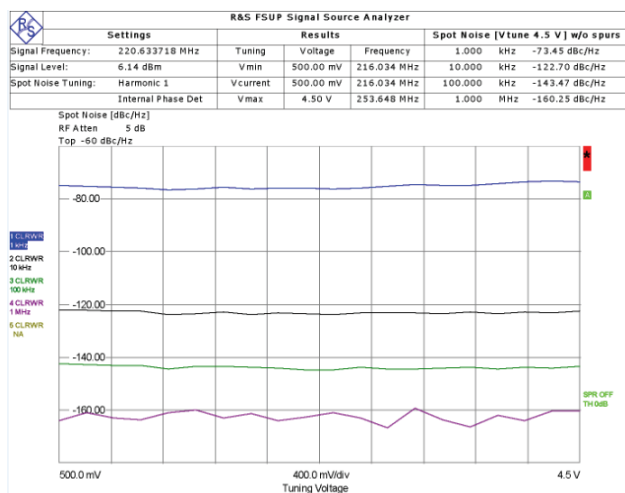
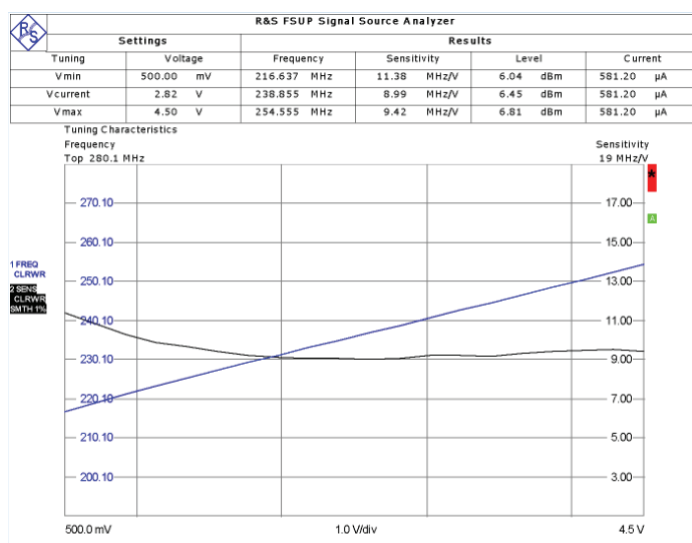
Electrical Specifications,  $T_A = +25^\circ\text{C}$ ,  $V_{CC} = +5.0\text{V}$  (unless otherwise stated)

| Parameter                   | Test Conditions         | Min  | Typ  | Max  | Units    |
|-----------------------------|-------------------------|------|------|------|----------|
| Frequency Ranges            |                         | 221  |      | 248  | MHz      |
| Tuning Voltage (V)          |                         | 0.5  |      | 4.5  | V        |
| RF Output Power             | 221-248MHz              | 5.6  | 6.5  | 7.1  | dBm      |
| Supply Voltage (Vcc)        |                         | 4.85 | 5.0  | 5.25 | V        |
| Supply Current (Icc)        |                         | 13   | 14   | 15.5 | mA       |
| Phase Noise :               |                         |      |      |      |          |
|                             | @10kHz Offset:          | -123 | -122 |      | dBc/Hz   |
|                             | @100kHz Offset:         | -144 | -143 |      | dBc/Hz   |
| Average Tuning Sensitivity  | 221-248MHz              |      | 9.5  |      | MHz/V    |
| Modulation deviation        |                         |      |      |      | KHz      |
| Harmonic Outputs            |                         | -60  |      | -40  | dBc      |
| Operating Temperature Range |                         | -55  |      | +85  | °C       |
| Tune Input Capacitance      |                         |      | 100  |      | PF       |
| Output Impedance -          |                         |      | 50   |      | $\Omega$ |
| Package Type                | SK625A(9.52X9.52X3.1mm) |      |      |      |          |

### Comments

X Indicates parameter to be tested 100% in production

| V<br>TUNE | TUNING<br>SENS.<br>(MHz/V) | FREQUENCY(MHz) |       |       | POWER OUTPUT(dBm) |      |      | HARMONIC(dBc) |      |      |
|-----------|----------------------------|----------------|-------|-------|-------------------|------|------|---------------|------|------|
|           |                            | -55℃           | +25℃  | +85℃  | -55℃              | +25℃ | +85℃ | -55℃          | +25℃ | +85℃ |
| 0.5       | 11.0                       | 217.6          | 216.5 | 215.6 | 6.2               | 5.9  | 5.6  | -43           | -42  | -41  |
| 1.0       | 10.0                       | 223.0          | 221.9 | 221.0 | 6.2               | 5.9  | 5.6  | -45           | -44  | -43  |
| 1.5       | 9.3                        | 228.0          | 226.7 | 225.6 | 6.4               | 6.0  | 5.7  | -48           | -47  | -46  |
| 2.0       | 9.0                        | 232.6          | 231.3 | 230.2 | 6.5               | 6.1  | 5.8  | -52           | -50  | -50  |
| 2.5       | 9.0                        | 237.3          | 235.8 | 234.8 | 6.5               | 6.3  | 6.0  | -55           | -54  | -53  |
| 3.0       | 9.0                        | 242.0          | 240.3 | 239.2 | 6.6               | 6.4  | 6.1  | -60           | -59  | -56  |
| 3.5       | 9.1                        | 246.6          | 244.8 | 243.8 | 6.8               | 6.6  | 6.2  | -62           | -61  | -60  |
| 4.0       | 9.3                        | 251.1          | 249.5 | 248.5 | 7.1               | 6.7  | 6.3  | -62           | -60  | -59  |
| 4.5       | 9.6                        | 255.9          | 254.3 | 253.0 | 7.1               | 6.8  | 6.4  | -59           | -58  | -58  |

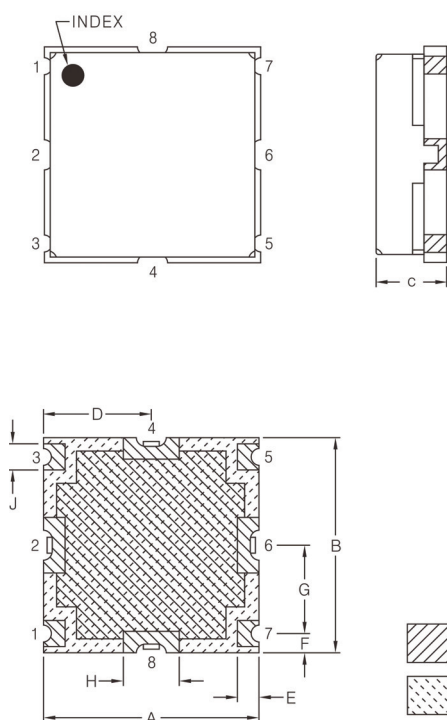


# Case Style

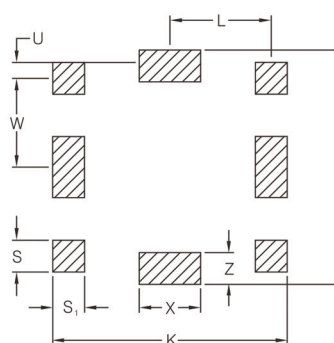
SK625

A

## Outline Dimensions



## PCB Land Pattern



|             |       |       |       |       |       |       |       |       |       |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| SK625       | A     | B     | C     | D     | E     | F     | G     | H     | J     |
| MILLIMETERS | 9.52  | 9.52  | 3.10  | 4.76  | 1.00  | 0.85  | 3.91  | 2.40  | 1.10  |
| INCHES      | 0.375 | 0.375 | 0.122 | 0.187 | 0.039 | 0.033 | 0.154 | 0.094 | 0.043 |

|             |       |       |       |                |       |       |       |       |       |
|-------------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|
| SK625       | K     | L     | S     | S <sub>1</sub> | T     | U     | W     | X     | Z     |
| MILLIMETERS | 10.3  | 4.47  | 1.40  | 1.40           | 10.30 | 0.70  | 3.91  | 2.70  | 1.40  |
| INCHES      | 0.406 | 0.176 | 0.055 | 0.055          | 0.406 | 0.028 | 0.154 | 0.106 | 0.055 |

|             |     |     |    |     |    |     |        |     |
|-------------|-----|-----|----|-----|----|-----|--------|-----|
| PIN         | 1   | 2   | 3  | 4   | 5  | 6   | 7      | 8   |
| APPLICATION | VCC | GND | NC | GND | VT | GND | RF OUT | GND |

### Notes:

1. Case material: Nickel-Silver alloy.
2. Base: Printed wiring laminate.