



ROHS-Compliant Product

# O-6000SC Series



## 1. Specification

**Test conditions:  $T_A = +25 \pm 3 \text{ }^\circ\text{C}$ ;  $V_C = 2 \text{ V} / 1.5 \text{ V}$  unless otherwise identified**

Frequency range:	5.0 ... 100.0 MHz	
Type:	<b>O-6500SC</b>	<b>O-6300SC</b>
Supply voltage $V_S$ :	<b>+5.0 V <math>\pm</math> 5 %</b>	<b>+3.3 V <math>\pm</math> 5 %</b>
Frequency stability vs. temperature options: $\leq \pm 5 \times 10^{-9}$ vs. $0 \text{ }^\circ\text{C}$ to $+50 \text{ }^\circ\text{C}$ : $\leq \pm 1 \times 10^{-8}$ vs. $-10 \text{ }^\circ\text{C}$ to $+60 \text{ }^\circ\text{C}$ : $\leq \pm 1 \times 10^{-8}$ vs. $-20 \text{ }^\circ\text{C}$ to $+70 \text{ }^\circ\text{C}$ : $\leq \pm 3 \times 10^{-8}$ vs. $-40 \text{ }^\circ\text{C}$ to $+85 \text{ }^\circ\text{C}$ : $\leq \pm 5 \times 10^{-8}$ vs. $-40 \text{ }^\circ\text{C}$ to $+85 \text{ }^\circ\text{C}$ :	<b>655x</b> <b>656x</b> <b>657x</b> <b>658x</b> <b>659x</b>	<b>635x</b> <b>636x</b> <b>637x</b> <b>638x</b> <b>639x</b>
Aging stability option (after 30 days of operation) $\leq \pm 1 \times 10^{-9}$ / day; $< \pm 1 \times 10^{-7}$ / year: $\leq \pm 2 \times 10^{-9}$ / day; $< \pm 1 \times 10^{-7}$ / year: $\leq \pm 5 \times 10^{-10}$ / day; $< \pm 5 \times 10^{-8}$ / year:	<b>65x1</b> <b>65x2</b> <b>65x3</b>	<b>63x1</b> <b>63x2</b> <b>63x3</b>
Frequency stability vs. supply voltage changes $V_S \pm 5 \%$ : vs. load changes $\pm 5 \%$ :	$\leq \pm 5.0 \times 10^{-9}$ $\leq \pm 1.0 \times 10^{-9}$	
Frequency control by external voltage $0 \text{ V} \dots V_{REF}$ :	$\geq \pm 1 \text{ ppm}$	
Linearity:	$\leq 10 \%$	
Reference Voltage $V_{REF}$ :	<b>+4.0 V <math>\pm</math> 5 %</b>	<b>+3.0 V <math>\pm</math> 5 %</b>
Power consumption @ $+25 \text{ }^\circ\text{C}$ steady state: during warm-up:	$\leq 1.5 \text{ W}$ $\leq 3.5 \text{ W}$	
Warm-up time: (for a typical accuracy of $\leq \pm 10 \text{ ppb}$ @ $+25 \text{ }^\circ\text{C}$ refer red to final frequency after 1 hour)	$\leq 5 \text{ min}$	
Output voltage / Load Option <b>H</b> : Option <b>S</b> :	(LV)HCMOS / 1 kOhm // 15 pF Sinewave / $\geq +3 \text{ dBm} / 50 \text{ Ohm}$	
Phase noise  10 Hz: 100 Hz: 1 kHz: 10 kHz:	(typical for 10 MHz)  -110 dBc / Hz -130 dBc / Hz -145 dBc / Hz -155 dBc / Hz	
Storage temperature range:	$-45 \text{ }^\circ\text{C} \dots +90 \text{ }^\circ\text{C}$	

4				KVG Quartz Crystal Technology GmbH P.O.Box 61 D-74924 Neckarbischofsheim Tel. +49 (0) 7263 / 648-0 Fax. +49 (0) 7263 / 6196
3				
2	Moisture sensitivity level	01.07.11	Rudolph	
1		24.08.07	M. Zupan	
ED	Description	Date	Name	



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## 2. Environmental conditions

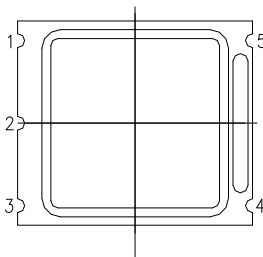
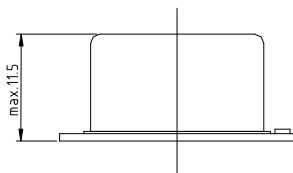
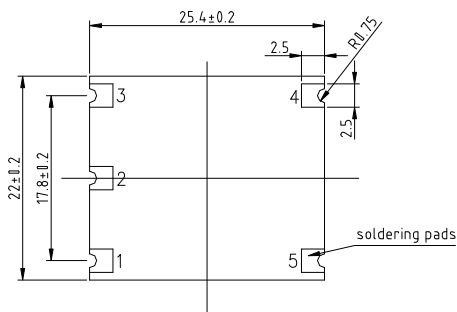
According to KVG Product Qualification Procedure AA-QM-200

## 3. Marking

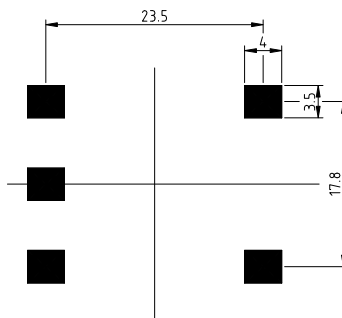
Manufacturer's name, date code(week/year); Specification; Center frequency

## 4. Case

### BF144-11.5-SMD



Foot print  
for PCB Design



### 1. Pin configuration

1. Control voltage  $V_C$
2. Reference voltage output  $V_{REF}$
3. Supply voltage  $V_S$
4. RF-output
5. Ground, case

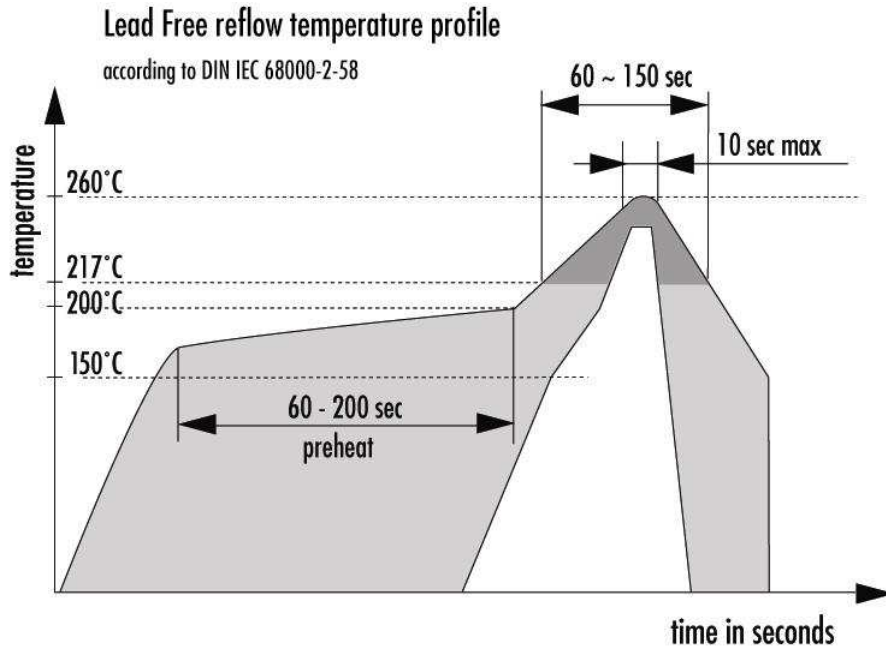
### 2. Moisture Sensitivity Level: 2

### 3. Termination finish:

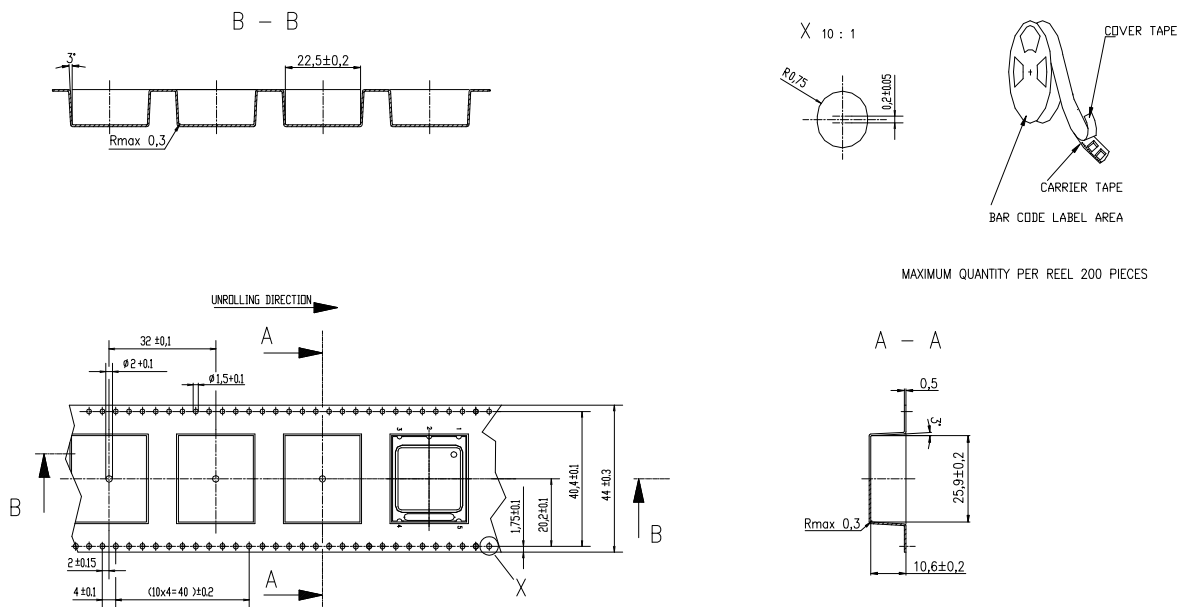
Au-Ni (Gold over Nickel)  
chemical Ni 4 - 8  $\mu\text{m}$ ;  
Au 0.05 - 0.12  $\mu\text{m}$

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## 5. Recommended soldering profile



## 6. Tape and reel



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