



ROHS-Compliant Product

**O-27000-SC-LF**



<b>1. Specification</b>		Test conditions: $T_A = +25 \pm 3 \text{ }^\circ\text{C}$ , $V_S = +12 \text{ V}$ , $V_C = +5 \text{ V}$
<b>Type:</b>		<b>O-27XYZ</b>
Frequency range:		5.0 MHz ... 20.0 MHz
Initial tolerance (1 h after power ON):		$\leq \pm 5.0 \times 10^{-8}$
Supply voltage $V_S$ :		$+12.0 \text{ V} \pm 5\%$
Temperature range options:		<b>X</b>
0 °C to +50 °C :		<b>1</b>
-10 °C to +60 °C :		<b>2</b>
0 °C to +70 °C :		<b>3</b>
-20 °C to +70 °C :		<b>4</b>
Frequency stability options:		<b>Y</b>
$\leq \pm 0.2 \text{ ppb}$ :		<b>1</b>
$\leq \pm 0.5 \text{ ppb}$ :		<b>2</b>
$\leq \pm 1.0 \text{ ppb}$ :		<b>3</b>
<b>Long term stability (aging) options @ +25°C</b> (after 30 days of continuous operation)		<b>Z</b>
$< \pm 1 \times 10^{-10} / \text{day}$ < $\pm 1 \times 10^{-8} / \text{year}$ ; < $\pm 1 \times 10^{-7} / 20 \text{ years}$ :		<b>1</b>
$< \pm 3 \times 10^{-10} / \text{day}$ < $\pm 3 \times 10^{-8} / \text{year}$ ; < $\pm 3 \times 10^{-7} / 20 \text{ years}$ :		<b>2</b>
Power Consumption during warm-up ( $T_A = 0 \text{ }^\circ\text{C}$ ):		$\leq 8.0 \text{ W}$
at steady state ( $T_A = +25 \text{ }^\circ\text{C}$ ):		$\leq 2.5 \text{ W}$
Frequency stability vs. supply voltage changes $V_S \pm 5 \%$ :		$\leq \pm 2.5 \times 10^{-10}$
vs. load changes $R_L = 50 \pm 5 \Omega$ :		$\leq \pm 2.5 \times 10^{-10}$
Frequency drift in hold over mode during one day: ( $T_A = \pm 3 \text{ }^\circ\text{C}$ within +20...+70 °C)		$\leq 5.0 \times 10^{-10}$
Short term stability (Allan Deviation) for $\tau = 0.2 \dots 10 \text{ s}$		$\leq 1.0 \times 10^{-11}$
Output signal type:		Sine wave
level:		> 400 mV rms
load:		50 Ohm
Phase noise (typical for 5MHz):		
1 Hz:		$\leq -100 \text{ dBc/Hz}$
10 Hz:		$\leq -130 \text{ dBc/Hz}$
100 Hz:		$\leq -145 \text{ dBc/Hz}$
1 kHz:		$\leq -150 \text{ dBc/Hz}$
Spurious:		$\leq -70 \text{ dBc}$
Harmonics:		$\leq -25 \text{ dBc}$

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2	Version O-27XYZ-S	03.08.2015	Balzer	
1		04.02.2013	Dannenmaier	
<b>ED</b>	<b>Description</b>	<b>Date</b>	<b>Name</b>	



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**1. Specification continued**

Start-up time (for $V_{out} > 90\%$ of final value):	$\leq 1 \text{ min}$
Warm-up time @ +25 °C: (for $\Delta f/f < 1 \times 10^{-8}$ referred to final frequency after 1 hours)	$\leq 10 \text{ min.}$
Retrace @ +25 °C after max. 24 h OFF and 1 h ON:	$\leq \pm 1.0 \times 10^{-8}$
Frequency control range (initial, referred to $f_0$ )	$\geq \pm 0.35 \text{ ppm}$
Control voltage range $V_C$ :	0 V to + 5 V
Input impedance:	$\geq 10 \text{ k}\Omega$
Pulling slope $dF/dV_C$ / Linearity:	positive / $\leq 10\%$
Storage Temperature range	-40 °C ... +85 °C

**2. Environmental conditions**

According to KVG Product Qualification Procedure AA-QM-200

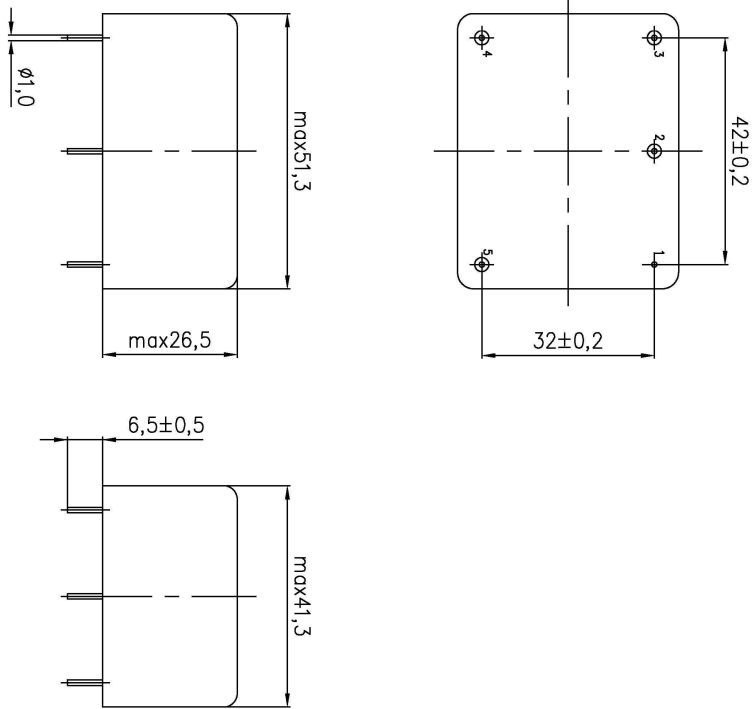
**3. Marking**

Manufacturer's name, date code (week/year)  
Nominal frequency  
Serial number  
Pb-free logo

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## 4. Case

Case style: BF138



all dimensions in mm

### 1. Pin configuration

1. GND, case
2. Control Voltage  $V_C$
3. N.C.
4. Supply voltage  $V_S$
5. RF output

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