



ROHS-Compliant Product

**NWO.30.800813-LF****1. Specification (preliminary)**

Nominal Frequency $F_N$ :	100.000 MHz
Initial frequency tolerance: ( $V_C = V_{REF}/2$ ; $T = +25\text{ }^\circ\text{C}$ , after power on for 30 min):	$\leq \pm 2 \times 10^{-7}$
Frequency stability in the temperature range $-20\text{ }^\circ\text{C}$ to $+70\text{ }^\circ\text{C}$ : vs. supply voltage changes $V_S \pm 5\%$ : vs. load changes $50\text{ Ohm} \pm 10\%$ :	$\leq \pm 5 \times 10^{-8}$ $\leq \pm 5 \times 10^{-9}$ $\leq \pm 5 \times 10^{-9}$
Aging (after 30 days of continuous operation): per day: per year: 15 years:	$\leq \pm 1 \times 10^{-9}$ $\leq \pm 1 \times 10^{-7}$ $\leq \pm 1.0\text{ ppm}$
Frequency tuning range:	$\pm 1.5\text{ ppm}$ to $\pm 2.5\text{ ppm}$
Frequency control voltage range $V_C$ :	0 V to + 10 V
Reference voltage $V_{REF}$ :	+ 10 V $\pm 5\%$
Supply voltage $V_S$ :	+12.0 V $\pm 5\%$
Supply current $I_S$ steady state @ $+25\text{ }^\circ\text{C}$ : during warm-up:	$\leq 150\text{ mA}$ $\leq 400\text{ mA}$
Warm up time: (to $dF/F_0 \leq \pm 5 \times 10^{-8}$ referred to $F_0$ after 1 hour)	$\leq 5\text{ min}$
Output signal type: Initial output level: Output load impedance:	Sine wave + 5 dBm to + 10 dBm 50 Ohm $\pm 10\%$
Output level stability vs. load (50 Ohm $\pm 10\%$ ):	$< \pm 1\text{ dBm}$
Harmonics: Spurious (100 Hz to 5 MHz):	$\leq -30\text{ dBc}$ $\leq -100\text{ dBc}$
Phase noise: 1 Hz: 10 Hz: 100 Hz: 1 kHz: 10 kHz: 100 kHz:	typical $\leq -80\text{ dBc / Hz}$ $\leq -110\text{ dBc / Hz}$ $\leq -130\text{ dBc / Hz}$ $\leq -155\text{ dBc / Hz}$ $\leq -165\text{ dBc / Hz}$ $\leq -170\text{ dBc / Hz}$
Temperature ranges Operating: Storage:	$-20\text{ }^\circ\text{C} \dots +70\text{ }^\circ\text{C}$ $-40\text{ }^\circ\text{C} \dots +85\text{ }^\circ\text{C}$



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## 2. Environmental conditions

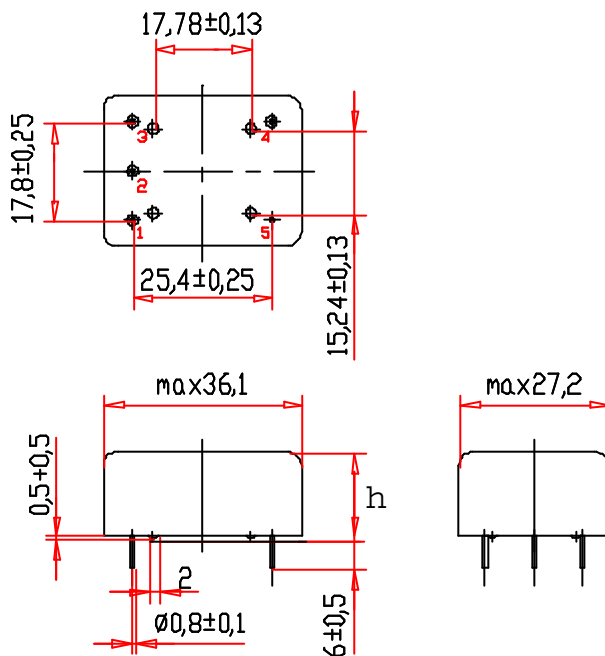
According to KVG Product Qualification Procedure AA-QM-200

## 3. Marking

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

## 4. Case

Case style: BF9-IS-19.4



max. height incl. stand-offs: 20.0 mm

### 1.Pin configuration

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