



ROHS-Compliant Product

T-75000 Series



SMD TCXO according to Telcordia GR-1244 and GR-253-Core Stratum 3, ANSI Clock T1.101, ITU-T G.812 Type IV and G.813 Option 1

1. Specification

Type:	T-75XYZ
Frequency range:	5.0 ... 26.0 MHz
Supply Voltage V_S (nominal values $\pm 5\%$):	X
+3.3 V :	6
+5.0 V :	7
Initial frequency tolerance ($T_A = +25\text{ }^\circ\text{C}$; $V_C = +1.5\text{ V}$): 24 h after reflow ($T_{\text{peak}} = +260\text{ }^\circ\text{C}$ for 10 sec max):	$\leq \pm 1.0\text{ ppm}$ $\leq \pm 1.5\text{ ppm}$
Temperature range options:	Y
0 °C to +50 °C :	1
-10 °C to +60 °C :	2
0 °C to +70 °C :	3
-20 °C to +70 °C :	4
-30 °C to +85 °C :	5
-40 °C to +85 °C :	6
Frequency stability options:	Z
$\pm 0.14\text{ ppm}$ (available for temp.range 1 to 4):	1
$\pm 0.28\text{ ppm}$:	2
$\pm 0.37\text{ ppm}$:	3
$\pm 0.5\text{ ppm}$:	4
$\pm 1.0\text{ ppm}$:	5
$\pm 0.2\text{ ppm}$:	6
Frequ.Stability vs. supply voltage changes $V_S \pm 5\%$: Clipped Sinewave output:	$\leq \pm 0.02\text{ ppm}$
LVHCMOS output:	$\leq \pm 0.3\text{ ppm}$
Frequ. Stability vs. load changes $\pm 10\%$:	$\leq \pm 0.1\text{ ppm}$
24 hours aging a 25°C after 10 days continuous operation:	$\leq \pm 0.02\text{ ppm}$
Overall stability: (incl. initial frequency tolerance, frequency stability vs. temperature, vs. supply voltage, vs. load changes and 20 years aging)	$\leq \pm 4.6\text{ ppm}$
Holdover stability (available for stability option 1 and 2): (incl. frequency stability vs. temperature and 24 hours aging)	$\leq \pm 0.32\text{ ppm}$
Storage Temperature Range:	-55 °C to +105 °C

4	Ordering Information	13.10.2016	Rudolph	KVG Quartz Crystal Technology GmbH P.O. Box 61 D-74924 Neckarbischofsheim Tel. +49 (0) 7263 / 648-0 Fax. +49 (0) 7263 / 6196
3	Overall stability extended to 20 years	27.01.2016	Dannenmaier	
2	0.2 ppm stability added	03.02.2015	Dannenmaier	
1		15.10.2010	Zupan	
ED	Description	Date	Name	



T-75000 Series



1. Specification continued

Frequency Control Options : Fixed frequency oscillator: +5 ppm: +8 ppm:	Suffix X F E	
Control voltage range V_C :	+0.5 V to +2.5 V	
Transfer function / Linearity:	positive / 10 %	
Output signal Option H : level: load:	(LV)HCMOS $V_{OL} \leq 10\% V_S$; $V_{OH} \geq 90\% V_S$ 1 kOhm // 15 pF	
Current consumption for HCMOS:	≤ 6 mA	
E/D (TriState) function at Pin 9 for HCMOS output: Input HIGH (> 70% V_S) or not connected: Input LOW (< 30% V_S):	Output Enable Output Disable (TriState)	
Output signal Options S : Type: Level: Load:	Clipped Sine wave $\geq 0.8 V_{PP}$ 10 kOhm // 10 pF	
Current consumption for clipped Sine wave:	≤ 3.5 mA	
Phase Noise 100 Hz: 1 kHz: 10 kHz:	(typical for 12.80 MHz) ≤ -120 dBc/Hz ≤ -140 dBc/Hz ≤ -148 dBc/Hz	(typical for 26.00 MHz) ≤ -112 dBc/Hz ≤ -135 dBc/Hz ≤ -145 dBc/Hz

2. Marking

ww KVG yy
Frequency

3. Environmental conditions

According to KVG Product Qualification Procedure AA-QM-202

4. Ordering Information

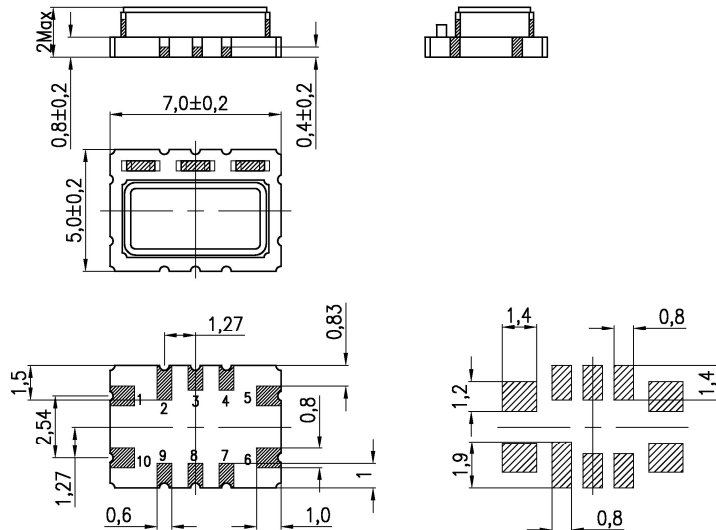
Package Code	Supply Voltage	Temp. Range	Frequency Stability	Frequency Control	Output Signal	Nominal Frequency
7.0 x 5.0 mm	3.3 V	-30/+85 °C	± 0.28 ppm	± 5 ppm	ClippedSine	16.000
T-75	6	5	2	F	S	- XX.YYY MHz

Example: T-75652FS-16.000 MHz

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5. Case

Case Style: BF189-2.0D



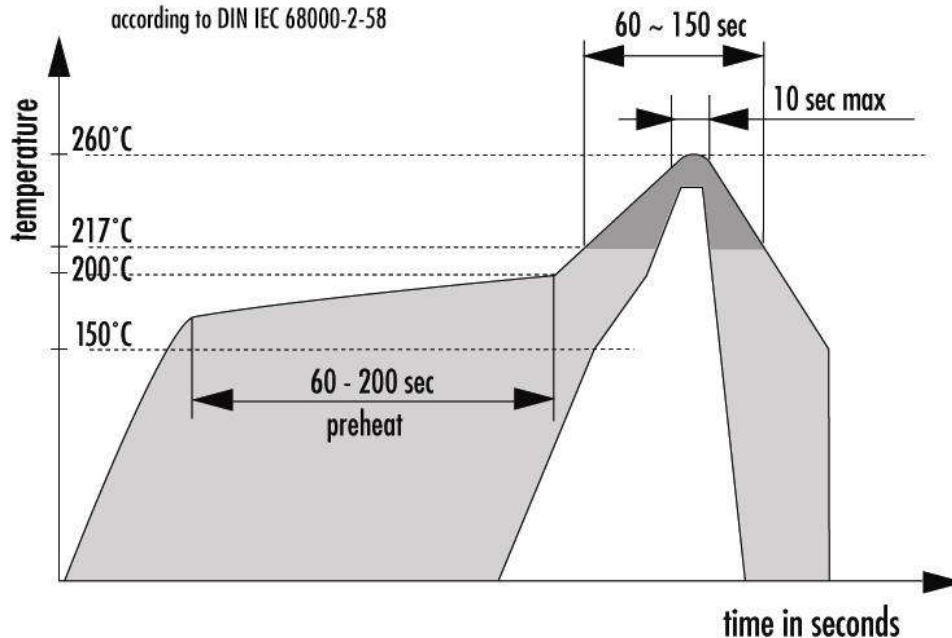
Pin configuration

1. Control voltage V_C or N.C.
2. N.C.
3. N.C.
4. N.C.
5. GND
6. RF Output
7. N.C.
8. N.C.
9. E/D (Tri-State) control
10. Supply Voltage V_S

6. Reflow Soldering Profile

Lead Free reflow temperature profile

according to DIN IEC 68000-2-58



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