ROHS-Compliant Product

T-74000 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

Test conditions: V_S = 3.3 V (5.0 V); V_C = 1.5 V; T_A = +25 °C if not stated otherwise.

Type:	**T-74XYZ**
Frequency range:	5.0 … 52.0 MHz
Supply Voltage V_S (nominal values ±5%):	**X**
+2.8V	2
+3.3 V :	3
+5.0 V :	5
Initial frequency tolerance (T_A = +25 °C; V_C = +1.5 V):	≤ ±1.0 ppm
24 h after reflow (T_{peak} = +260 °C for 10 sec max):	≤ ±2.0 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**
±0.05 ppm (available for temp.range 1 to 2):	1
±0.10 ppm (available for temp.range 1 to 4):	2
±0.14 ppm (available for temp.range 1 to 4):	3
±0.20 ppm:	4
±0.28 ppm:	5
±0.50 ppm:	6
±1.00 ppm:	7
Frequ. stability vs. supply voltage changes V_S ± 5 %:	
Clipped Sinewave output:	≤ ± 0.02 ppm
LVHCMOS output:	≤ ± 0.02 ppm
Frequ. stability vs. load changes ± 10 %:	≤ ± 0.05 ppm
24 hours aging at +25 °C after 10 days continuous operation:	≤ ± 0.02 ppm
Overall stability incl. nominal freq. tol., frequency stab. vs. temp., vs. supply voltage, vs. load changes and 15 years aging :	≤ ± 4.6 ppm

ED	Description	Date	Name	**KVG Quartz Crystal Technology GmbH**
4	2.8V added	03.09.2014	Balzer	
3	Freq. ext and 1.00ppm variant added	04.09.2013	Dannenmaier	P.O. Box 61
2	Tape and reel added	06.03.2013	Dannenmaier	D-74924 Neckarbischofsheim
1		06.12.2012	Rudolph	Tel. +49 (0) 7263 / 648-0
				Fax. +49 (0) 7263 / 6196

Subject to technical modification

Holdover Stability incl. frequency stab. vs. temp, vs. supply voltage changes and 24-hours aging (available for stability option 1 to 5) :	≤ ± 0.32 ppm

1. Specification continued

Frequency Control Options : Fixed frequency oscillator: ±5 ppm:	**Suffix** **X** **F**	
Control voltage range V_C:	+0.5 V to +2.5 V	
Transfer function / Linearity:	positive / 10 %	
Output signal Option **H**: Output level: Nominal output load:	(LV)**H**CMOS V_{OL} ≤ 10% V_S; V_{OH} ≥ 90% V_S 1 kOhm // 15 pF	
Current consumption for **H**CMOS:	≤ 6 mA	
Output signal Options **S**: Output level: Nominal output load:	Clipped **S**ine wave ≥ 0.8 V_{PP} 10 kOhm // 10 pF	
Current consumption for Clipped **S**ine wave:	≤ 3.5 mA	
Phase Noise	(typ. for 12.8 MHz)	(typ. for 26.0 MHz)
100 Hz:	≤ -130 dBc/Hz	≤ -120 dBc/Hz
1 kHz:	≤ -145 dBc/Hz	≤ -138 dBc/Hz
10 kHz:	≤ -154 dBc/Hz	≤ -153 dBc/Hz
100 kHz:	≤ -156 dBc/Hz	≤ -156 dBc/Hz
Storage Temperature Range:	-55 °C to +105 °C	

2. Marking

ww KVG yy
Frequency

3. Environmental conditions

According to KVG Product Qualification Procedure AA-QM-202

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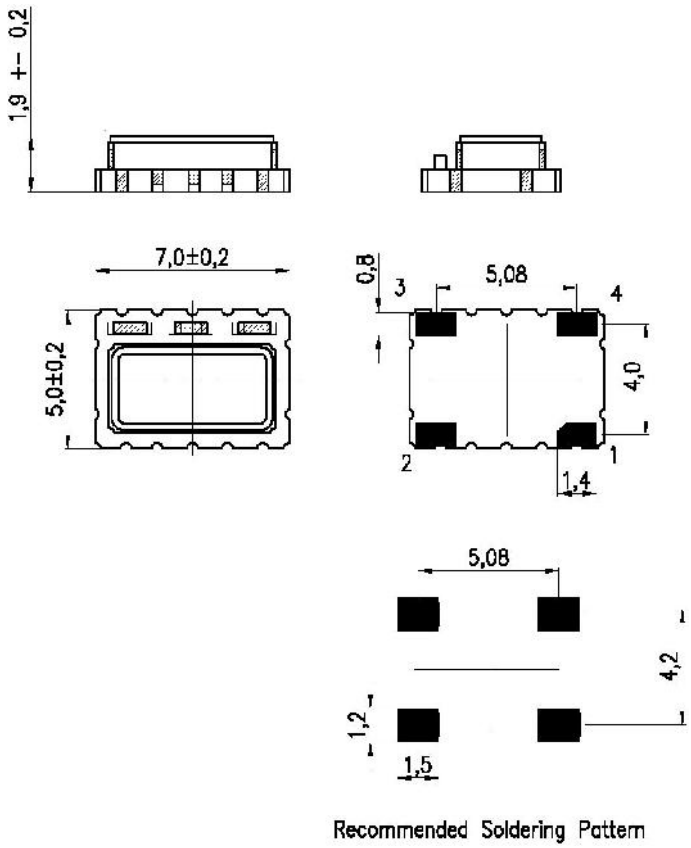
4. Case

Case Style: BF189-2.0F



Recommended Soldering Pattern

Pin configuration

1. Control voltage V_C (VC-TCXO) or grounded (TCXO)
2. GND
3. RF Output
4. Supply Voltage V_S

Moisture Sensitivity Level: 1

Termination finish: Ni-Au (0.5 to 1.5 µm Gold over Nickel)

Base Material: copper alloy

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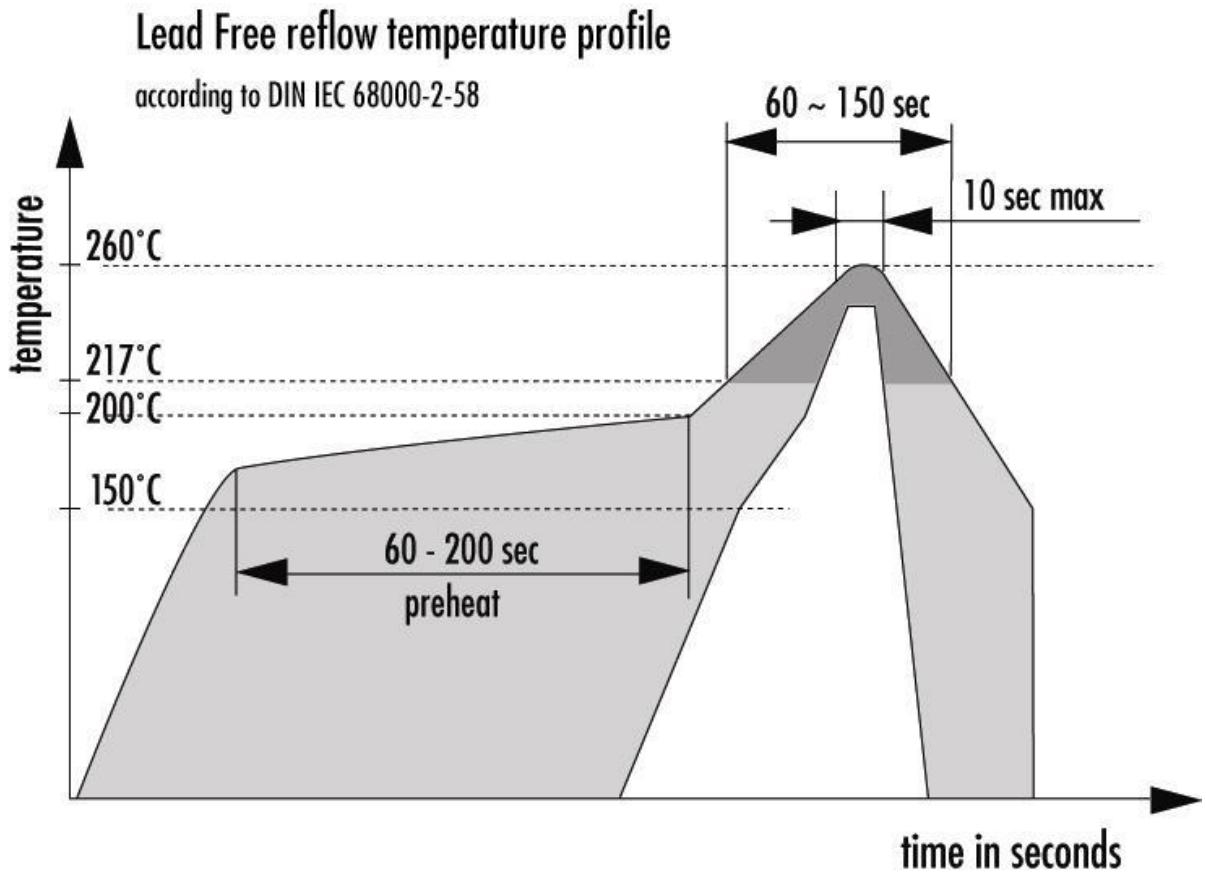
5. Reflow Soldering Profile



6. Ordering Information

Package Code	Supply Voltage	Temp. Range	Frequ. Stability	Frequ. Control	Output Signal	RoHS compl.	Nominal Frequency
7.0 x 5.0 mm	3.3 V	-40/+85 °C	± 0.28 ppm	± 5 ppm	Sine		16.000
T-74	**3**	**6**	**5**	**F**	**S**	**-LF**	**– XX.YYY MHz**

Example: T-74365FS-LF-26.000 MHz

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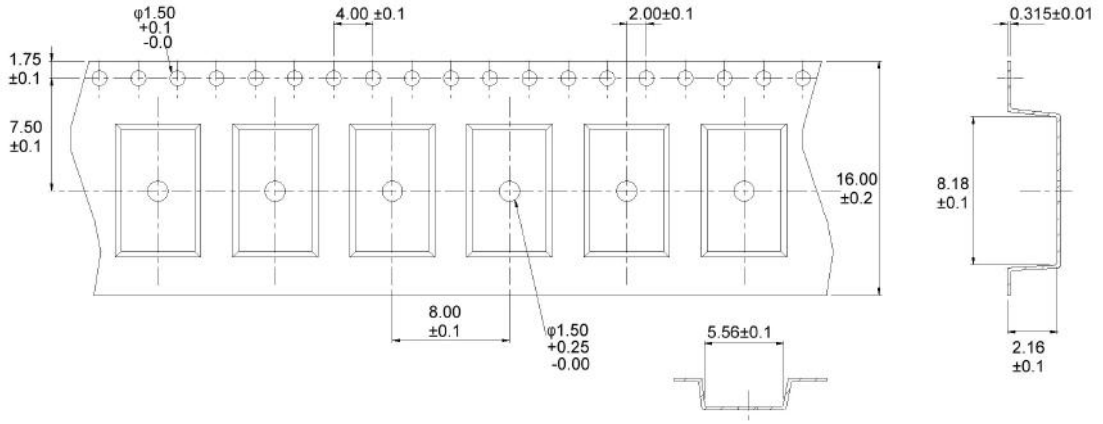
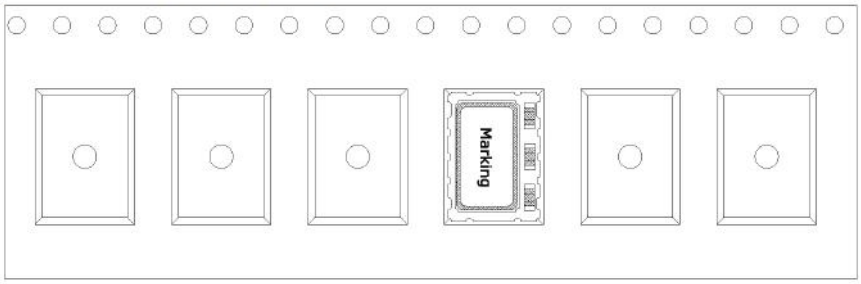
7. Tape and reel

TAPE (CARRIER) DIMENSIONS

Unit: mm

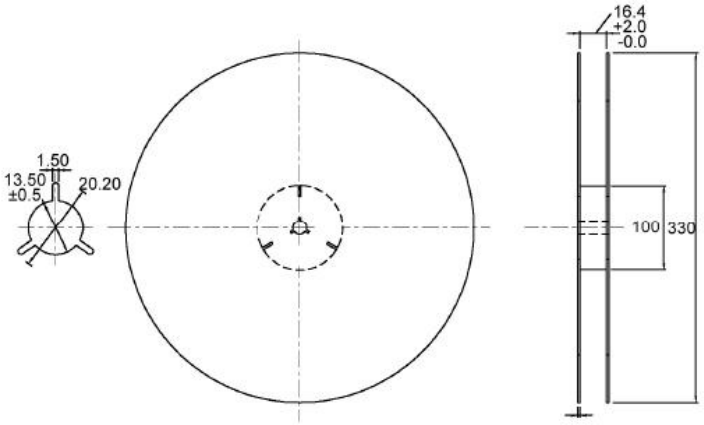


THE DIRECTION OF PACKING



REEL DIMENSIONS

Unit: mm



max. pcs per reel: 3000

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