



T-98000 Series



1. Specification	
Type:	T-98XYZ
Frequency range:	10.0 ... 52.0 MHz
Supply Voltage V_S (nominal values $\pm 5\%$):	X
+1.8 V:	1
+2.4 V:	2
+2.7 V:	3
+2.8 V:	4
+3.0 V:	5
+3.3 V:	6
Initial frequency tolerance ($T_A = +25\text{ °C}$; $V_C = +1.5\text{ V}$): 24 h after reflow ($T_{\text{peak}} = +260\text{ °C}$ 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
$\pm 0.5\text{ ppm}$:	1
$\pm 1.0\text{ ppm}$:	2
$\pm 1.5\text{ ppm}$:	3
$\pm 2.0\text{ ppm}$:	4
$\pm 2.5\text{ ppm}$:	5
$\pm 3.0\text{ ppm}$:	6
$\pm 4.0\text{ ppm}$:	7
$\pm 5.0\text{ ppm}$:	8
Frequency stability vs. supply voltage changes $V_S \pm 5\%$: vs. load changes $\pm 10\%$:	$\leq \pm 0.2\text{ ppm}$ $\leq \pm 0.2\text{ ppm}$
Aging @ +40 °C: 1 st year: 10 years:	$\leq \pm 1.0\text{ ppm}$ $\leq \pm 5.0\text{ ppm}$
Frequency Control Options : Fixed frequency oscillator: +5 ppm: +8 ppm: +10 ppm: +12 ppm:	X F E T U
Control voltage range V_C :	+0.5 V to +2.5 V
Transfer function / Linearity:	positive / 10 %

4	Supply voltage 1.8 V amended	04.04.2014	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	Aging for 10 years amended	25.04.2013	Rudolph	
2	Moisture sensitivity	09.08.2012	Rudolph	
5	Frequency Range ext. To 52 MHz	09.04.2014	Dannenmaier	
ED	Description	Date	Name	

1. Specification continued

Output signal options Type: Level: Load:	S: Clipped Sinewave $\geq 0.8 V_{PP}$ 10 kOhm // 10 pF	
Current consumption for type S f < 15 MHz: f \geq 15 MHz:	≤ 1.5 mA ≤ 2.0 mA	
Phase Noise 100 Hz: 1 kHz: 10 kHz: 25 kHz:	(typical for 13 MHz) -115 dBc -135 dBc -145 dBc -147 dBc	(typical for 26 MHz) -108 dBc -128 dBc -140 dBc -142 dBc
Temperature Ranges Operable: Storage:	-40 °C to +85 °C -55 °C to +105 °C	

2. Marking

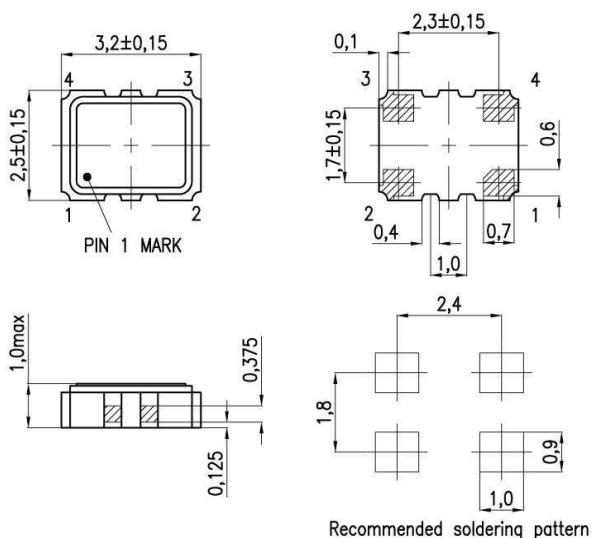
Nominal frequency

3. Environmental conditions

According to KVG Product Qualification Procedure AA-QM-200

4. Case

Case Style: BF201-1.0-SMD



Pin configuration

1. GND (TCXO) or Control voltage V_C (VCTCXO)
2. GND, Case
3. RF output
4. Supply voltage V_S

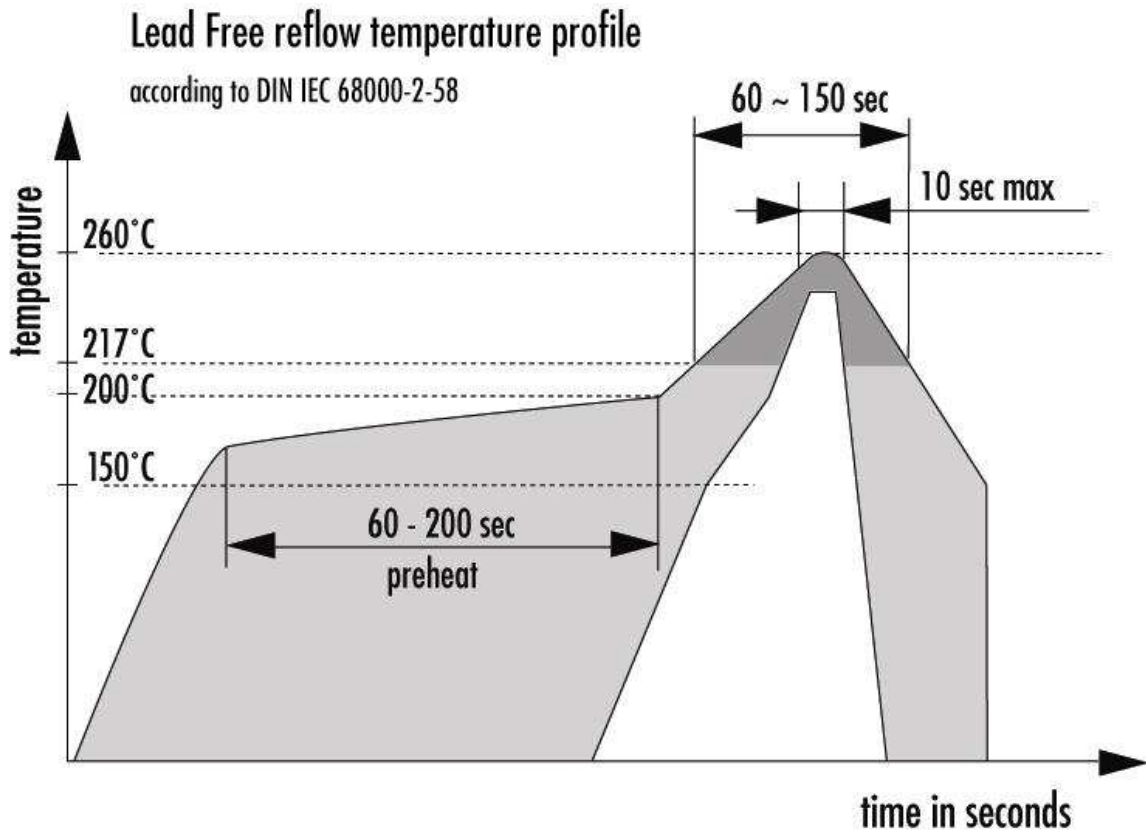
Moisture Sensitivity Level: 1

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

Base Material: copper alloy

4	Supply voltage 1.8 V amended	04.04.2014	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	Aging for 10 years amended	25.04.2013	Rudolph	
2	Moisture sensitivity	09.08.2012	Rudolph	
5	Frequency Range ext. To 52 MHz	09.04.2014	Dannenmaier	
ED	Description	Date	Name	

5. Reflow Soldering Profile



6. Ordering Information

Package Code	Supply Voltage	Temp. Range	Frequ. Stability	Frequ. Control	Output Signal	RoHS compl.	Nominal Frequency
3.2 x 2.5 mm	2.8 V	-30/+85 °C	±2 ppm	±5 ppm	Sine		26.000
T-98	4	5	4	F	S	-LF	- XX.YYY MHz

Example: T-98454FS-LF-26.000 MHz

4	Supply voltage 1.8 V amended	04.04.2014	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	Aging for 10 years amended	25.04.2013	Rudolph	
2	Moisture sensitivity	09.08.2012	Rudolph	
5	Frequency Range ext. To 52 MHz	09.04.2014	Dannenmaier	
ED	Description	Date	Name	