



ROHS-Compliant Product

T-96000 Series



SMD TCXO according to frequency stability requirements of Telcordia GR-253-Core SMC (SONET MINMUM CLOCK) and of ITU-T G.813 Option 2

1. Specification	
Type:	T-96XYZ
Frequency range:	5.000 to 52.000 MHz
Supply Voltage V_C (nominal values $\pm 5\%$):	X
+2.5 V:	3
+3.3 V:	6
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):	$\leq \pm 2.0\text{ ppm}$
Temperature range options:	Y
0 $^\circ\text{C}$ to +50 $^\circ\text{C}$:	1
-10 $^\circ\text{C}$ to +60 $^\circ\text{C}$:	2
-20 $^\circ\text{C}$ to +70 $^\circ\text{C}$:	4
-30 $^\circ\text{C}$ to +85 $^\circ\text{C}$:	5
-40 $^\circ\text{C}$ to +85 $^\circ\text{C}$:	6
Frequency stability options:	Z
$\pm 0.5\text{ ppm}$ (case by case)::	1
$\pm 1.0\text{ ppm}$:	2
+1.5 ppm:	3
+2.0 ppm:	4
+2.5 ppm:	5
+3.0 ppm:	6
+4.0 ppm:	7
$\pm 5.0\text{ ppm}$:	8
Frequency stability vs. supply voltage changes $V_S \pm 5\%$: vs. load changes $\pm 10\%$:	$\leq \pm 0.1\text{ ppm}$ $\leq \pm 0.2\text{ ppm}$
Aging @ +40 $^\circ\text{C}$ per year : after 10 years:	<u>Typical</u> $\leq \pm 1.0\text{ ppm}$ $\leq \pm 3.0\text{ ppm}$
Storage Temperature Range:	-55 $^\circ\text{C}$ to +125 $^\circ\text{C}$

4				KVG Quartz Crystal Technology GmbH P.O. Box 61 D-74924 Neckarbischofsheim Tel. +49 (0) 7263 / 648-0 Fax. +49 (0) 7263 / 6196
3				
2				
1		13.09.2013	Dannenmaier	
ED	Description	Date	Name	



T-96000 Series



1. Specification continued

Frequency Control Options : Fixed frequency oscillator: ±5 ppm: ±8 ppm: ±10 ppm: ±12 ppm (case by case): ±15 ppm (case by case):	X F E T U V
Control voltage range V_C :	+0.5 V to +2.5 V
Transfer function / Linearity:	positive / 10 %
Output signal Option H (*): low level : high level : load : (*) For HCMOS please contact factory case by case	(LV) HCMOS low < 10% V_S high > 90% V_S 1 kOhm // 15 pF
Current consumption for HCMOS :	< 6 mA
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 12,8 MHz) -115 dBc -135 dBc -148 dBc

2. Marking

ww KVG yy
Frequency

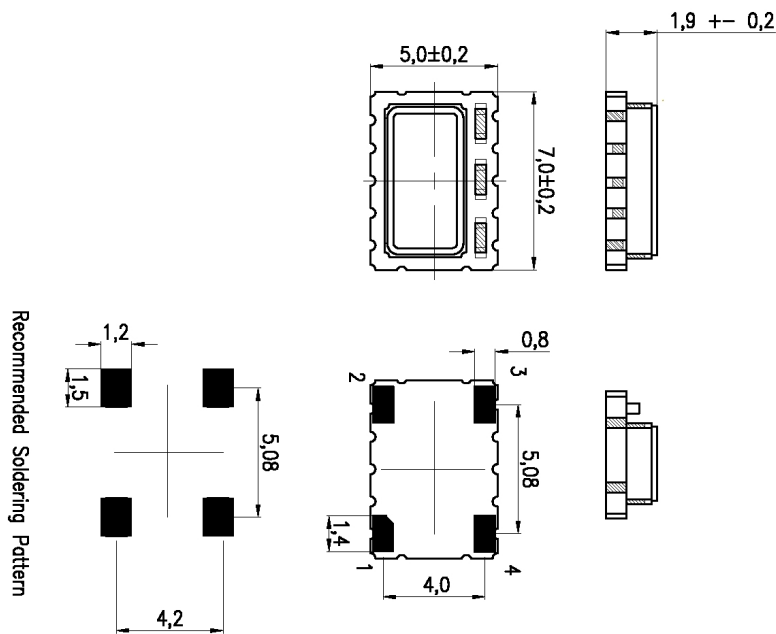
3. Environmental conditions

According to KVG Product Qualification Procedure AA-QM-200

4				KVG Quartz Crystal Technology GmbH P.O. Box 61 D-74924 Neckarbischofsheim Tel. +49 (0) 7263 / 648-0 Fax. +49 (0) 7263 / 6196
3				
2				
1		13.09.2013	Dannenmaier	
ED	Description	Date	Name	

4. Case

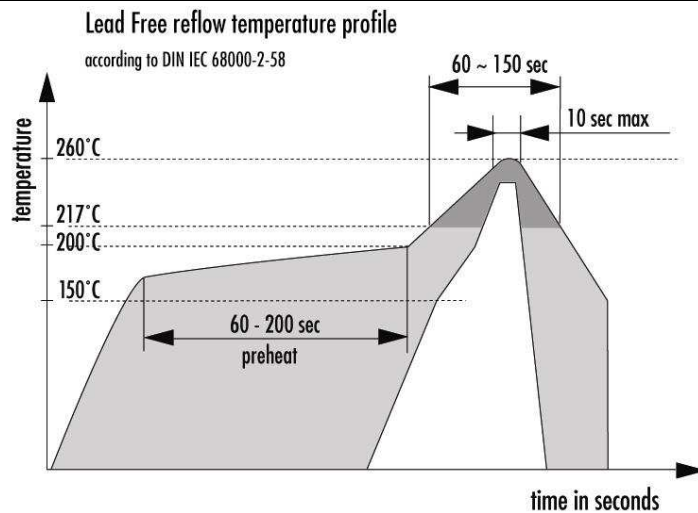
Case Style: BF189-2.0F



Pin configuration

1. N.C. or control voltage V_C
2. Ground, Case
3. RF Output
4. Supply voltage V_S

5. Reflow Soldering Profile



4				KVG Quartz Crystal Technology GmbH P.O. Box 61 D-74924 Neckarbischofsheim Tel. +49 (0) 7263 / 648-0 Fax. +49 (0) 7263 / 6196
3				
2				
1		13.09.2013	Dannenmaier	
ED	Description	Date	Name	



ROHS-Compliant Product

T-96000 Series



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	-30/+85 °C	±1 ppm	±5 ppm	Sine		2 6.000
T-96	6	5	2	F	S	-LF	- XX.YYY MHz

Example: T-96652FS-LF-26.000 MHz

4				KVG Quartz Crystal Technology GmbH P.O. Box 61 D-74924 Neckarbischofsheim Tel. +49 (0) 7263 / 648-0 Fax. +49 (0) 7263 / 6196
3				
2				
1		13.09.2013	Dannenmaier	
ED	Description	Date	Name	