ROHS-Compliant Product

T-32000 Series

1. Specification

Frequency range:	10.0 … 52.0 MHz
Supply Voltage V_S (nominal values ±5%):	
+1.8 V:	**J**
+2.4 V:	**G**
+2.7 V:	**F**
+2.8 V:	**E**
+3.0 V:	**D**
+3.3 V:	**A**
Temperature range options:	
0 °C to +50 °C :	**0050**
-10 °C to +60 °C :	**1060**
0 °C to +70 °C :	**0070**
-20 °C to +70 °C :	**2070**
-30 °C to +85 °C :	**3085**
-40 °C to +85 °C :	**4085**
Frequency stability options:	
± 0.5 ppm:	**J**
± 1.0 ppm:	**K**
± 1.5 ppm:	**N**
± 2.0 ppm:	**O**
± 2.5 ppm:	**P**
± 3.0 ppm:	**Q**
± 4.0 ppm:	**R**
± 5.0 ppm:	**S**
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):	≤ ±1.5 ppm
Frequency stability	
vs. supply voltage changes V_S ± 5 %:	≤ ±0.2 ppm
vs. load changes ± 10 %:	≤ ±0.2 ppm
Aging @ +40 °C:	
1st year:	≤ ±1.0 ppm
10 years:	≤ ±5.0 ppm

ED	Description	Date	Name	
4	Supply voltage 1.8 V amended	04.04.2014	Rudolph	**KVG Quartz Crystal Technology GmbH**
7	HCMOS output amended	01.03.2018	Rudolph	P.O. Box 61
6	New product coding	01.06.2015	Dannenmaier	D-74924 Neckarbischofsheim
5	Frequency Range ext. To 52 MHz	09.04.2014	Dannenmaier	Tel. +49 (0) 7263 / 648-0
				Fax. +49 (0) 7263 / 6196

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1. Specification continued

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 %
Output signal type **S**: Level: Load:		Clipped **S**inewave ≥ 0.8 V_{PP} 10 kOhm // 10 pF
Current consumption for type **S** f < 15 MHz: f ≥ 15 MHz:		 ≤ 1.5 mA ≤ 2.0 mA
Output signal Option **H**: level: load:		(LV)**H**CMOS V_{OL} ≤ 10% V_S; V_{OH} ≥ 90% V_S 1 kOhm // 15 pF
Current consumption for option **H** (HCMOS):		≤ 6 mA
Phase Noise 100 Hz: 1 kHz: 10 kHz: 25 kHz:	(typical for 13 MHz) -115 dBc/Hz -135 dBc/Hz -145 dBc/Hz -147 dBc/Hz	(typical for 26 MHz) -108 dBc/Hz -128 dBc/Hz -140 dBc/Hz -142 dBc/Hz
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

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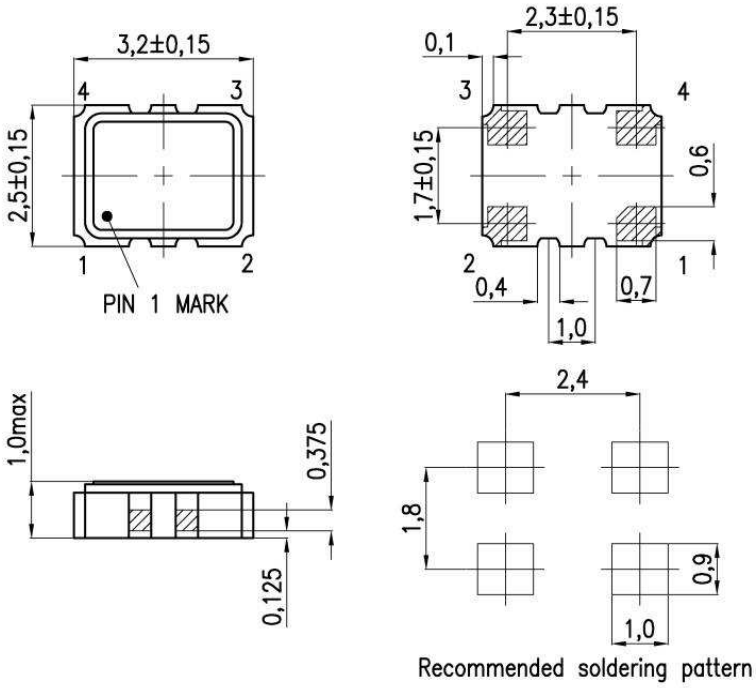
4. Case

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 Vs

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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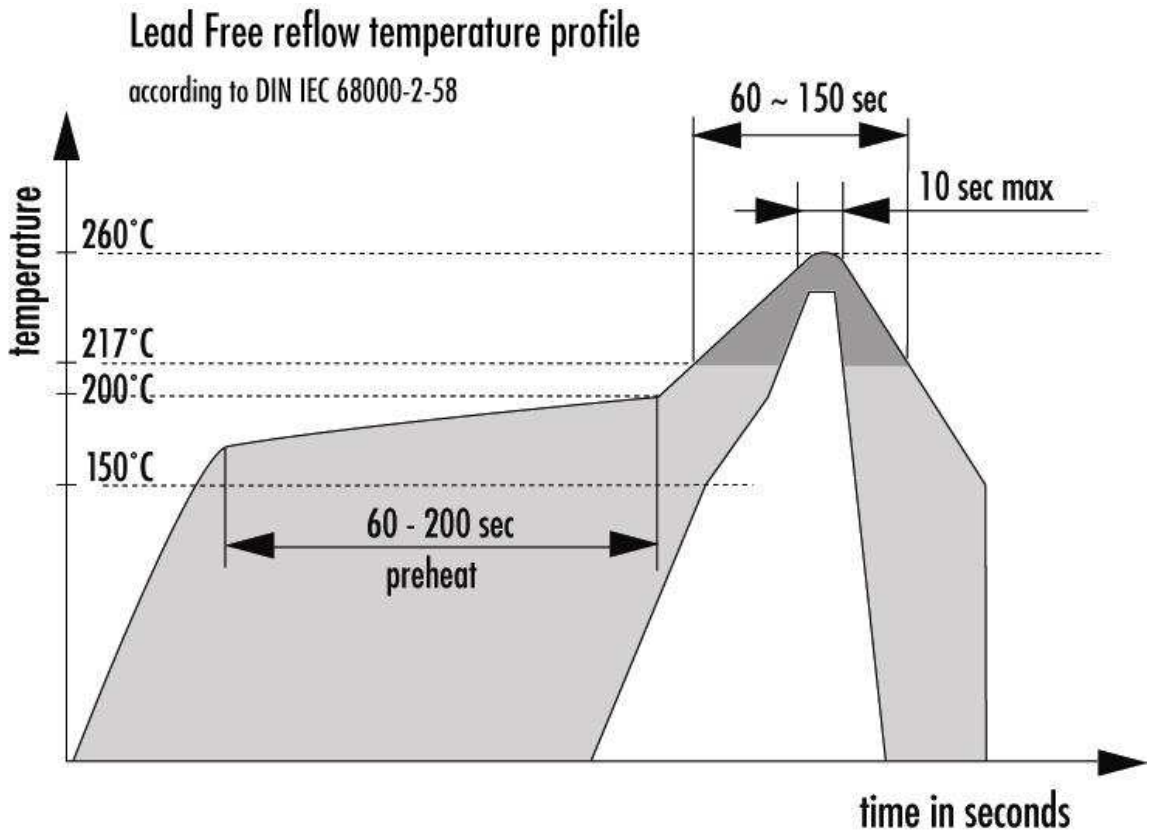
5. Reflow Soldering Profile



6. Ordering Information

Type & Package code	Supply voltage	Temperature range LOW/HIGH	Freq. stability	Freq. Tuning Range	Output Signal	RoHS compl.	Nominal frequ
T-32: BF-201-1.0-SMD	**A…J:**	**2070**: -20 / +70 °C **4085**: -40 / +85 °C	**J…. S**	**X….U**	**S; H**	**-LF**	– XX.YYY M

Example: T-32A2070JXS-LF-26.000 MHz

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