



# T-9100 Series



1. Specification		
Type:	T-9100	T-9200
Supply voltage $V_S$ :	<b>+5 V <math>\pm</math> 5%</b>	<b>+3.3 V <math>\pm</math> 5%</b>
Nominal frequency range	10.0 ... 25.0 MHz	
Initial frequency tolerance ( $T_A = +25\text{ }^\circ\text{C}$ ):	< $\pm$ 2.0 ppm ( $V_C = +2.5\text{ V}$ )	< $\pm$ 2.0 ppm ( $V_C = +1.5\text{ V}$ )
Temperature stability Options: $\pm$ 2.0 ppm vs. $-10\text{ }^\circ\text{C}$ to $+60\text{ }^\circ\text{C}$ : $\pm$ 1.5 ppm vs. $-20\text{ }^\circ\text{C}$ to $+70\text{ }^\circ\text{C}$ : $\pm$ 2.0 ppm vs. $-30\text{ }^\circ\text{C}$ to $+70\text{ }^\circ\text{C}$ : $\pm$ 2.5 ppm vs. $-30\text{ }^\circ\text{C}$ to $+75\text{ }^\circ\text{C}$ : $\pm$ 2.0 ppm vs. $-30\text{ }^\circ\text{C}$ to $+80\text{ }^\circ\text{C}$ : $\pm$ 5.0 ppm vs. $-40\text{ }^\circ\text{C}$ to $+85\text{ }^\circ\text{C}$ :	<b>T-9102</b> <b>T-9110</b> <b>T-9120</b> <b>T-9130</b> <b>T-9135</b> <b>T-9140</b>	<b>T-9202</b> <b>T-9210</b> <b>T-9220</b> <b>T-9230</b> <b>T-9235</b> <b>T-9240</b>
Frequency stability vs. supply voltage changes $V_S \pm 5\%$ : vs. load changes $\pm 10\%$ :	< $\pm$ 0.3 ppm < $\pm$ 0.2 ppm	
Aging @ $+40\text{ }^\circ\text{C}$ :	< $\pm$ 1.0 ppm / year	
Frequency control Options :	<b>MC:</b> Mechanical trim, $\pm$ 3 ppm, no voltage control <b>MVC:</b> $\pm$ 5 ppm voltage control + mech. trim <b>VC:</b> $\pm$ 8 ppm voltage control only, no mech.trim	
Control voltage $V_C$ :	+0.5 V to +4.5 V	+0.5 V to +2.5 V
Transfer function / Linearity:	positive / 10 %	
Output signal type: <b>S</b> load: level:	Clipped Sinewave 10 kOhm // 10 pF > 0.8 Vp-p	
Current consumption for option <b>S</b> :	$\leq 2.0\text{ mA}$ < 16.8 MHz $\leq 3.0\text{ mA}$ > 16.8 MHz	$\leq 1.5\text{ mA}$ < 16.8 MHz $\leq 2.0\text{ mA}$ > 16.8 MHz
Output signal type: <b>H</b> load: low level: high level:	<b>HCMOS</b> 1 kOhm // 15 pF low < 10% $V_S$ high > 90% $V_S$	<b>(LV)HCMOS</b> 1 kOhm // 15 pF low < 10% $V_S$ high > 90% $V_S$
Current consumption for option <b>H</b> : f < 20 MHz: f > 20 MHz:	< 15 mA < 20 mA	< 8 mA < 10 mA
Start up time:	< 10 msec.	

10	Current consumption 3.3V, LVHCMOS	23.06.09	Zupan	<b>KVG Quartz Crystal Technology GmbH</b> <b>P.O. Box 61</b> <b>D-74924 Neckarbischofsheim</b> Tel. +49 (0) 7263 / 648-0 Fax. +49 (0) 7263 / 6196
9	Output voltage level (LV)HCMOS	23.04.09	Zupan	
8	Current consumption HCMOS, 5V	16.08.07	Zupan	
7	New Temp.Option; current consumpt.	31.07.07	Rudolph	
ED	Description	Date	Name	



ROHS-Compliant Product

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Phase Noise (typical at 10 MHz)	Clipped sinewave	LV(HCMOS)
10 Hz :	-80 dBc/Hz	-80 dBc/Hz
100 Hz:	-120 dBc/Hz	-120 dBc/Hz
1 kHz:	-135 dBc/Hz	-135 dBc/Hz
10 kHz:	-140 dBc/Hz	-145 dBc/Hz

## 2. Environmental conditions

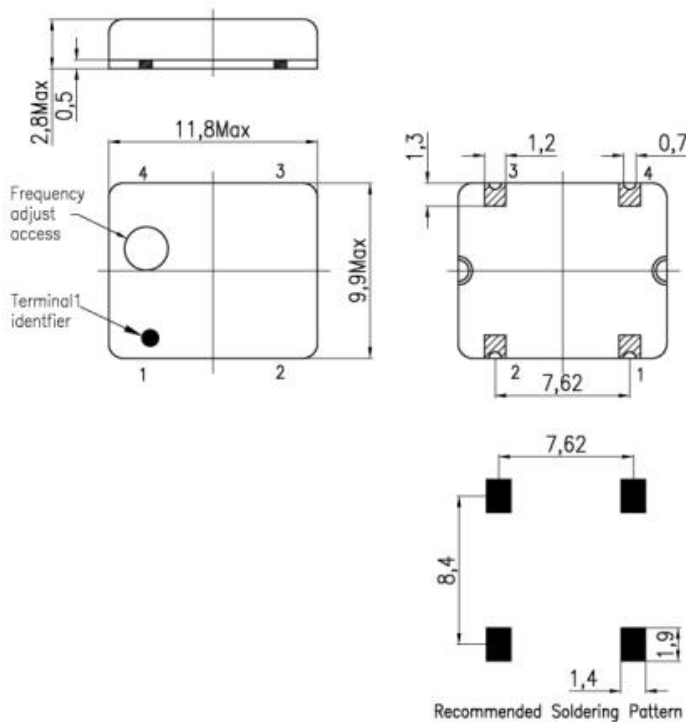
According to KVG Product Qualification Procedure AA-QM-200

## 3. Marking

Manufacturer's name, date code (week/year); Specification; Center frequency

## 4. Case

### Case Style: BF190-2.8

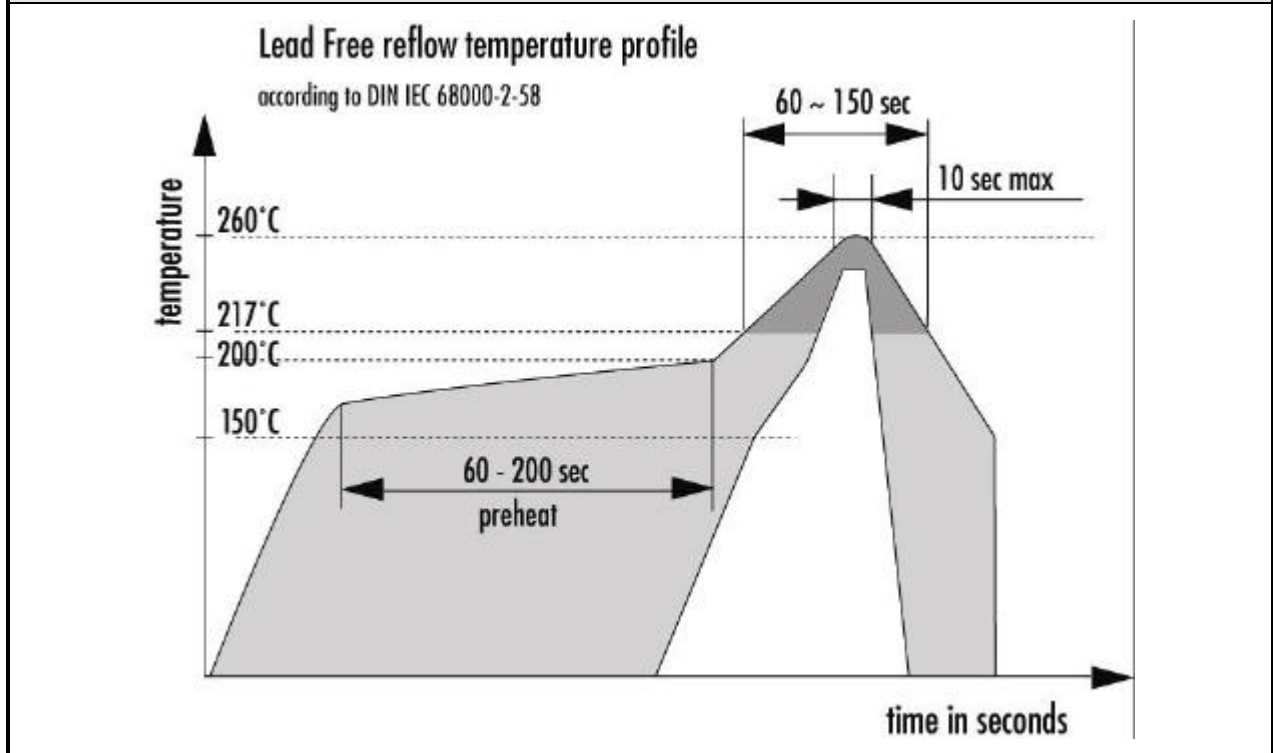


### 1. Pin configuration

1. Control voltage  $V_C$  or N.C.
2. Ground, case
3. RF Output
4. Supply voltage  $V_S$

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## 5. Reflow Soldering Profile



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