

KT12 Series SMD Crystal Clock Oscillators

Temperature Compensated

FEATURES

- 1) Miniature SMD type (11.6x9.6x2.3mm)
- 2) Frequency adjustment free after reflow soldering process
- 3) AFC function available (option)
- 4) 3V/5V drive available
- 5) Frequency stability: ± 2 ppm at $-30 \sim +80^\circ\text{C}$
- 6) 2000 pieces per reel
- 7) Sold in increments of 2000 pieces

HOW TO ORDER

KT12 - **D C V 33 V** - **19.680M T**

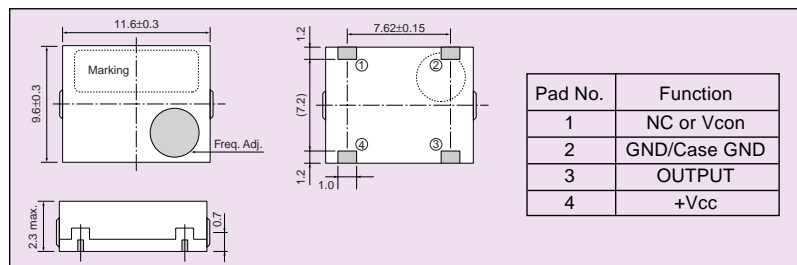
- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
- ① Type
 - ② Terminals: Blank ()=4 terminals, A=6 terminals, B=8 terminals
 - ③ Frequency stability: D= ± 2 ppm, E= ± 2.5 ppm, K= ± 5 ppm
 - ④ Lower operating temp.: C= -30°C ; E= -20°C , G= -10°C
 - ⑤ Upper operating temp.: R= 60°C ; T= 70°C ; V= 80°C
 - ⑥ Supply voltage: 30=3.0V; 50=5.0V
 - ⑦ AFC function; V=with; N=without; L=with (trimmerless)
 - ⑧ Frequency: See table below
 - ⑨ Packaging: T= Tape and reel



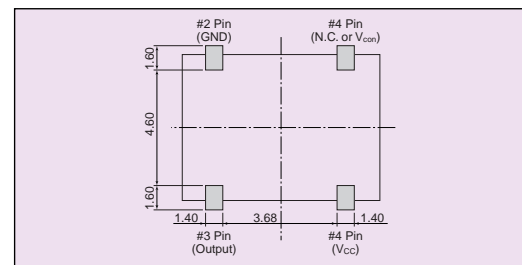
SPECIFICATIONS

Parameters	Code	Specification		Unit	Remarks
		PHS	Cellular		
Supply Voltage	Vcc	3.0V $\pm 5\%$	3.0V $\pm 5\%$ 5.0V $\pm 5\%$	V	
Output Frequency	Fout	19.200	19.680 19.200 16.800 14.400 13.000 12.800	MHz	—
Operating Temp.	Topr	-10 ~ 60	-30 ~ 80 max.	$^\circ\text{C}$	—
Storage Temp.	Tstr	-20 ~ 70	-40 ~ 85	$^\circ\text{C}$	—
Frequency Stability	f/fo	± 2.5 max.	± 2.0 max. ± 2.5 max.	ppm	vs. Temp. (After Reflow) vs. Load vs. Voltage
Aging Rate	Aging		± 1.0 max.	ppm/year	1 Year
Output Voltage	Vout		1.0 min.	Vp-p	Load 10k /10pF
Supply Current	Icc		2.0 max.	mA	—
Trimmer Control Range	f/C		± 3.0 min.	ppm	Internal Trimmer
Voltage Control Range	f/V		ex: $\pm 4.0 \sim \pm 8.0$	ppm	1.5V ± 1 V, 2.5 ± 1 V
Harmonics	—		-3.0 max.	dBc	—

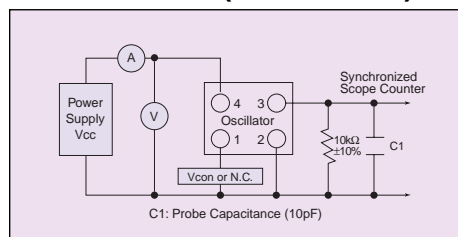
DIMENSIONS



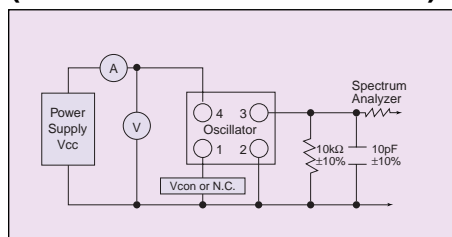
RECOMMENDED LAND PATTERN



TEST CIRCUIT (AMPLITUDE)



TEST CIRCUIT (HARMONICS & FREQUENCY)



RECOMMENDED REFLOW PROFILE (IR REFLOW)

