

K50-CS Series Miniature SMT Crystal Clock Oscillators

Low Power Consumption

f_o : 8 to 50 MHz

Features

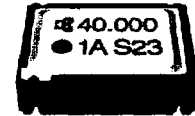
- 1) Miniature SMT ceramic package
- 2) Low power consumption
- 3) Frequency: 8-50MHz
- 4) Stability: 100ppm, 50ppm
- 5) Load: 15pF
- 6) Tristate output inhibit
- 7) Hermetically sealed package
- 8) Optional bumped solder pads for ease of washing

How to Order

K50-CS 1 S E 40.000M R X

① ② ③ ④ ⑤ ⑥ ⑦

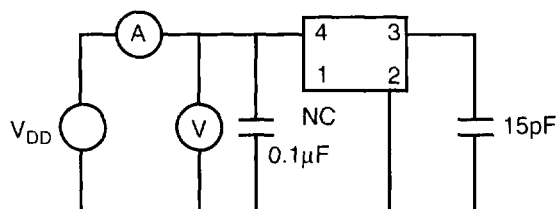
- ① Type: (K50-CS series)
- ② Stability: 1-100ppm, 0-50ppm
- ③ Duty cycle: S-45/55
- ④ Tristate o/p: E with function
- ⑤ Frequency
- ⑥ Packaging: R-tape and reel (3k or 1k per reel)
□-taped but not reeled
- ⑦ Optional solder pad bump: □-without bump (standard)
X-with bump (option)



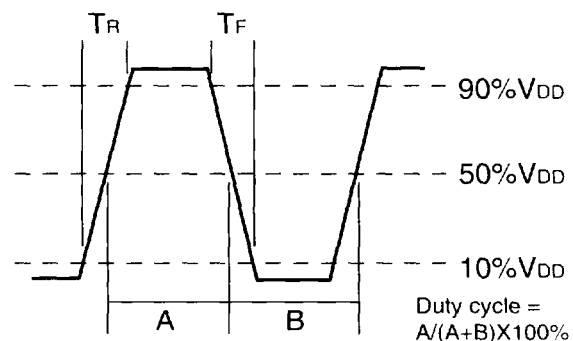
SPECIFICATIONS (K50-CS)

Classification	Code	Rating	Unit	Remarks
Output Frequency	f_{OUT}	8 to 50	MHz	
Frequency precision	$\Delta f/f$	1=100, 0=50	ppm	-10 to 70°C, $V_{DD}=5\pm 0.5V$
Operating temp	t_{OPR}	-10 to +70	°C	
Storage temp	t_{STOR}	-55 to +125	°C	
Supply voltage	V_{DD}	5 ±0.5	V	
Supply current	I_{DD}	30 max @ 15pF	mA	25°C, 50MHz
Duty cycle	S_Y	45/55	%	@50% V_{DD}
Output "0" level	V_{OL}	0.5max	V	@ $I_{OL} = 1.6mA$
Output "1" level	V_{OH}	$V_{DD}-0.5min$	V	@ $I_{OH} = -0.1mA$
Rise / Fall time	T_R/T_F	10max	nS	0.5V to 4.5V
Load		15pF		
Enable/disable time		100max	nS	
Aging rate		±5max	ppm/y	
Input voltage-high	V_{IH}	2.2min	V	
Input voltage-low	V_{IL}	0.8max	V	

TEST CIRCUIT



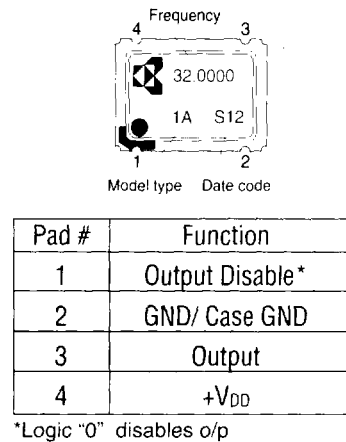
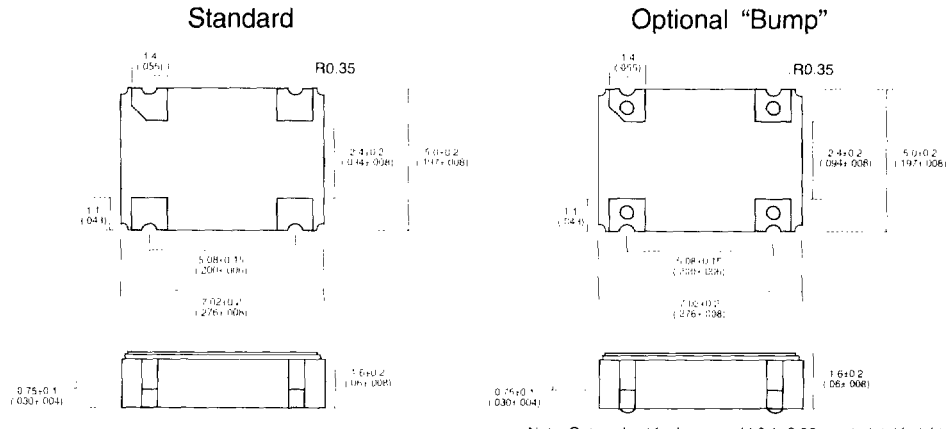
OUTPUT WAVEFORM



K50 Series Miniature SMT Clock Oscillators

Ceramic Package

DIMENSIONS

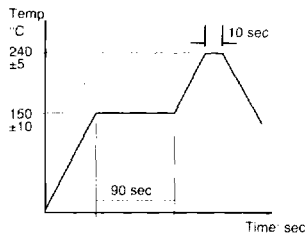


Model type marking: 1 = 100ppm, 0 = 50ppm. A = CS-E, B = HC-CSE, L = 3C-LE (3.3 volt)

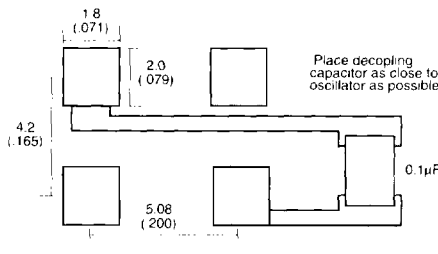
Units: mm (inches)

SOLDERING

Suggested IR Reflow Profile

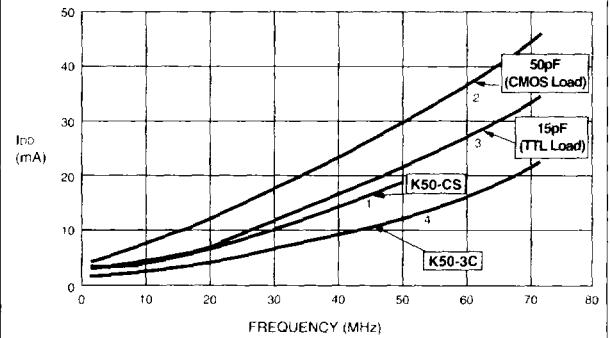


Suggested Solder Pad Layout



Units: mm (inches)

FREQUENCY VS. POWER SUPPLY CURRENT



ENABLE/DISABLE FUNCTION CHART

K50-HC-C, K50-CS Series

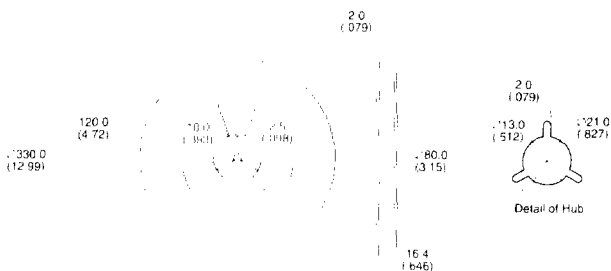
#1 Pad	#3 Pad
High or Open	Oscillation
Low	High Impedance

K50-3C-L Series

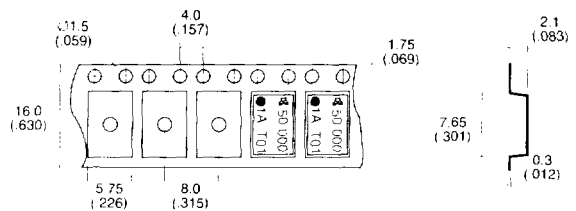
#1 Pad	#3 Pad
High	Oscillation
Low	High Impedance Oscillation Stops

PACKAGING

Embossed Carrier Tape Dimensions



Reel Dimensions



Units: mm (inches)