

# Surface Mount Oscillators

•SCO1H18, SCO1H25, SCO1H28, SCO1H33  
(2.0 x 1.6 x 0.8 mm)

# NKG

Factory  
Direct to  
the USA

## Electrical Specifications

SMD Oscillators					
SCO1H18, SCO1H25, SCO1H28, SCO1H33					
2.0 x 1.6 x 0.8 MM	CERAMIC, SMD	SCO1H18	SCO1H25	SCO1H28	SCO1H33
INPUT VOLTAGE		+1.8 VDD	+2.5 VDD	+2.8 VDD	+3.3 VDD
INPUT CURRENT		5 mA MAX	6 mA MAX	7 mA MAX	8 mA MAX
PACKAGE CONSTRUCTION		HERMETICALLY SEAM SEALED CERAMIC PACKAGE W/ METAL COVER. 4 SMD PADS FOR ELECTRICAL AND PHYSICAL ATTACH TO PCB.			
FREQUENCY RANGE		24.000 to 60.000 MHz *			
FREQUENCY STABILITY	ALL CONDITIONS **	+/-20 ppm, +/-25 ppm, +/-30 ppm, +/-50 ppm, and +/-100 ppm ARE MOST COMMON ***			
OPERATING TEMP. RANGE		0 °C TO +70°C IS STANDARD. -10°C to +70°C, -20°C to +70°C, AND -40°C to +85°C ARE COMMON			
OUTPUT LOAD		15 pF (HCMOS)			
OUTPUT WAVESHAPE		HCMOS, SQUAREWAVE			
RISE TIME, 10% to 90% SIGNAL LEVELS	BELOW 40 MHz	5 ns MAX	5 ns MAX	5 ns MAX	4 ns MAX
	40 MHz AND ABOVE	4 ns MAX	4 ns MAX	4 ns MAX	3ns MAX
FALL TIME, 90% TO 10% SIGNAL LEVELS	BELOW 40 MHz	5 ns MAX	5 ns MAX	5 ns MAX	4 ns MAX
	40 MHz AND ABOVE	4 ns MAX	4 ns MAX	4 ns MAX	3ns MAX
SYMMETRY	AT 50% VDD	50/50 +/-5%			
LOGIC 1	LOAD = 15 pF	VDD-0.4 V			
LOGIC 0	LOAD = 15 pF	0.4 V MAX			
STORAGE TEMP. RANGE		-55°C to +105°C			
STANDBY FUNCTION		LOGIC 1: HIGH IMPEDANCE - OSCILLATOR STOPS. LOGIC 0 -OR- N/C: NORMAL OPERATION			
STANDBY CURRENT		10 uA MAX			
AGING		3 PPM FIRST YEAR, 1 PPM PER YEAR THEREAFTER			
RoHS		FULLY COMPLIANT			
LEGACY P/N		SCO87	SCO89	SCO88	SCO86

\* CONSULT FACTORY FOR EXTENDED RANGES

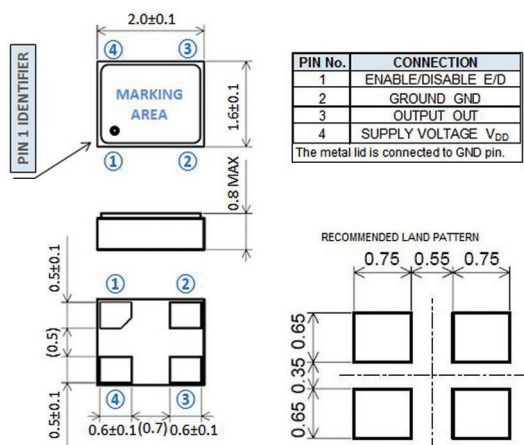
\*\* INCLUDE +25°C TOLERANCE, OPERATING TEMPERATURE RANGE, INPUT VOLTAGE CHANGE, LOAD CHANGE, SHOCK AND VIBRATION. CONSULT FACTORY FOR TIGHTER OPTIONS

\*\*\* LIMITED STABILITIES BEYOND -20°C TO +70°C.  
STABILITY TABLE BELOW SHOWS TWO LETTER CODE FOR TEMPERATURE RANGE TO BE SELECTED.

**NOTES:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## Dimensions (Unit:mm)

## \*NKG Oscillator Part Example Key



**SCO1H-18 - 20M000 - A F P**

Family/Package: SCO1H-18

Voltage (+1.8VDD)

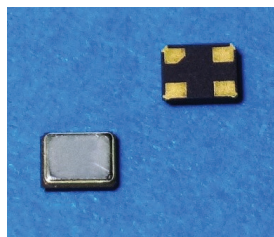
Frequency (20.000 MHz)

P = 70°C (3rd letter)

F = -30°C (2nd letter)

A = 100 ppm Total Tolerance over Temperature +/- 100 ppm (1st letter)

1st letter	Tolerance +/-	2nd letter	3rd letter
A	100 ppm	A= -55°	L= 50°
B	50 ppm	B= -50°	M= 55°
C	25 ppm	C= -45°	N= 60°
D	20 ppm	D= -40°	P= 70°
		E= -35°	Q= 75°
		F= -30°	R= 80°
		G= -25°	T= 85°
		H= -20°	U= 90°
		J= -10°	V= 100°
		K= 0°	W= 105°
			X= 110°
			Y= 120°
			Z= 125°



\*NOT TO SCALE

**Contact**  
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