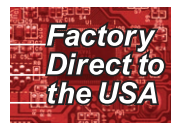


# Surface Mount Crystal

- S3M (3.2 x 2.5 x 0.8-(maximum height) mm)
- S3G\*\* (3.2 x 2.5 x 0.8-(maximum height) mm)



## Electrical Specifications

### SMD Crystal S3M & S3G

CERAMIC SMD		S3M	S3G** (not recommended for new designs)
PARAMETER	CONDITION		
FREQUENCY RANGE	FUNDAMENTAL	11 MHz to 60 MHz	12 MHz to 60 MHz
DIMENSIONS		3.2 x 2.5 x 0.8 MM	3.2 x 2.5 x 0.8 MM
LOAD CAPACITANCE (CL)		6 TO 32 pF & SERIES	6 TO 32 pF & SERIES
STATIC CAPACITANCE (Co)		3 pF MAX	3 pF MAX
EQUIVALENT SERIES RESISTANCE (ESR)		SEE TABLE 1 BELOW	SEE TABLE 2 BELOW
MODE		FUNDAMENTAL	FUNDAMENTAL
DRIVE LEVEL		10 μW typ., 100 μW MAX	10 μW typ., 100 μW MAX
FREQ. TOLERANCE AT +25C	STANDARD	+/-30 PPM	+/-30 PPM
	OPTIONAL	+/-10 PPM to +/-100 PPM	+/-10 PPM to +/-100 PPM
STABILITY VS. TEMP.	STANDARD	+/-30 PPM	+/-30 PPM
	OPTIONAL	+/-10 PPM to +/-100 PPM	+/-10 PPM to +/-100 PPM
OPERATING TEMP. RANGE	STANDARD	-20°C to +70°C	-20°C to +70°C
	OPTIONAL	SEE TABLE 3 BELOW	SEE TABLE 3 BELOW
STORAGE TEMP. RANGE		-40°C to +85°C	-40°C to +85°C
AGING	FIRST YEAR	5 PPM	5 PPM
HERMETIC SEALED		YES, SEAM SEAL	YES, GLASS SEAL
INSULATION RESISTANCE		500 MΩ Min	500 MΩ Min
SOLDER PADS	QTY:	4	4
DLD TESTED	RLD, DLD, FLD	YES, 100%	YES, 100%
RoHS STATUS		FULLY COMPLIANT	BY EXEMPTION
LEGACY P/N		CX-3M	CX-3G

TABLE 1 - MAXIMUM ESR - SERIES S3M

FREQUENCY RANGE	MAX ESR	MODE
11.0 MHz to 12.9 MHz	150 Ohms	Fundamental
13.0 MHz to 19.9 MHz	80 Ohms	Fundamental
20.0 MHz to 26.9 MHz	60 Ohms	Fundamental
27.0 MHz to 60.0 MHz	50 Ohms	Fundamental

TABLE 2 - MAXIMUM ESR - SERIES S3G

FREQUENCY RANGE	MAX ESR	MODE
12.000 MHz to 12.999 MHz	170 Ohms	Fundamental
13.000 MHz to 19.999 MHz	100 Ohms	Fundamental
20.000 MHz to 26.999 MHz	70 Ohms	Fundamental
27.000 MHz to 60.000 MHz	60 Ohms	Fundamental

TABLE 3 - OPTIONAL TEMPERATURE RANGES

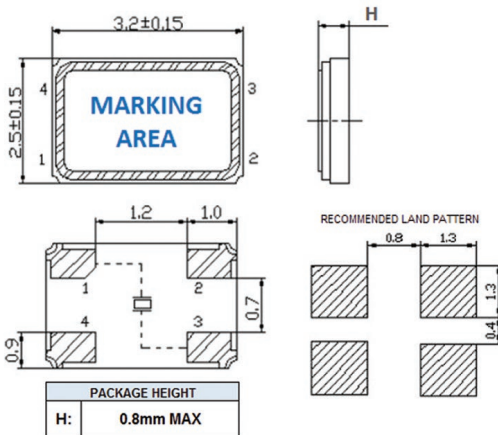
MOST POPULAR	CODE
-10°C~+60°C	JN
-20°C~+70°C	HP
-40°C~+85°C	DT

OTHER TEMPERATURE RANGES AVAILABLE - CONSULT FACTORY

\*\*S3G IS NOT RECOMMENDED FOR NEW DESIGNS

## Dimensions (Unit:mm)

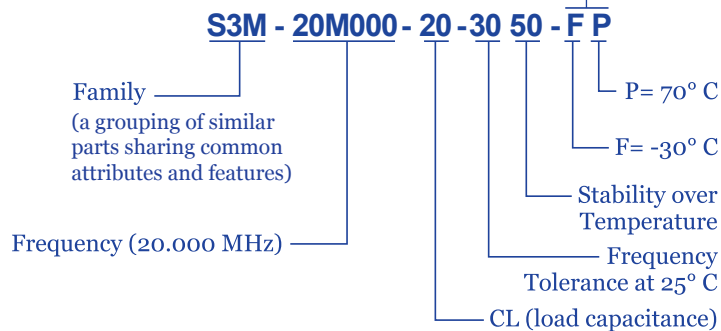
## \*NKG Crystal Part Numbering Key



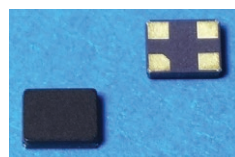
PIN No.	CONNECTION
1	CRYSTAL
2	N.C. or GROUND (GND)
3	CRYSTAL
4	N.C. or GROUND (GND)

The metal lid is connected to GND pins.

NOTE: The package as shown has a chamfered corner on pin 1 (connection pad 1 on bottom side of unit). Alternate package having the chamfered corner on pin 4 is approved and acceptable as well.



1st letter	2nd letter
A= -55°	L= 50°
B= -50°	M= 55°
C= -45°	N= 60°
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  
[www.nkg-usa.com/contactnkg](http://www.nkg-usa.com/contactnkg)