

Surface Mount Crystal

- SR1-23/HC-49 SM2PD (12.5 x 5 x 4.5 mm)
- SR1-29/HC-49 SSM2PD (12.5 x 5 x 4.5 mm)

NKG

Factory
Direct to
the USA

Electrical Specifications

SMD Crystal - SR1-23 / HC-49 SM2PD SR1-29 / HC-49 SSM2PD			
49 SMD W/ BLACK STANDOFF		SR1-23 / HC-49 SM2PD	SR1-29 / HC-49 SSM2PD
PARAMETER	CONDITION		
FREQUENCY RANGE	FUNDAMENTAL	3.2 MHz to 32 MHz	3.2 MHz to 32 MHz
	3rd O.T.	30 MHz to 67 MHz	30 MHz to 67 MHz
DIMENSIONS		12.5 x 5.0 x 5.0 mm	12.5 x 5.0 x 4.5 mm
LOAD CAPACITANCE (CL)		6 TO 32 pF & SERIES	6 TO 32 pF & SERIES
STATIC CAPACITANCE (Co)		5 pF MAX	5 pF MAX
EQUIVALENT SERIES RESISTANCE (ESR)		SEE TABLE 1 BELOW	SEE TABLE 1 BELOW
MODE		SEE TABLE 1 BELOW	SEE TABLE 1 BELOW
DRIVE LEVEL		10 µW typ., 500 µW MAX	10 µW typ., 500 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	+/-50 PPM	+/-50 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 2 BELOW	SEE TABLE 2 BELOW
STORAGE TEMP. RANGE		-40°C to +85°C	-40°C to +85°C
AGING	FIRST YEAR	5 PPM	5 PPM
HERMETIC SEALED		YES, RESISTANCE WELD	YES, RESISTANCE WELD
INSULATION RESISTANCE		500 MΩ Min	500 MΩ Min
SOLDER PADS	QTY:	4 (X1=1&4, X2=2&3)	4 (X1=1&4, X2=2&3)
DLD TESTED	RLD, DLD, FLD	YES, 100%	YES, 100%
RoHS STATUS		FULLY COMPLIANT	FULLY COMPLIANT
LEGACY P/N		CR1-23	CR1-29

TABLE 1A - MAXIMUM ESR & CRYSTAL MODE

FREQUENCY RANGE	MAX ESR	MODE
3.200 to 3.499 MHz	150 Ohms	FUND
3.500 to 3.999 MHz	120 Ohms	FUND
4.000 to 5.999 MHz	100 Ohms	FUND
6.000 to 6.999 MHz	70 Ohms	FUND
7.000 to 8.999 MHz	60 Ohms	FUND

TABLE 1B - MAXIMUM ESR & CRYSTAL MODE

FREQUENCY RANGE	MAX ESR	MODE
9.000 to 9.999 MHz	50 Ohms	FUND
10.000 to 12.999 MHz	40 Ohms	FUND
13.000 to 19.999 MHz	30 Ohms	FUND
20.000 to 32.000 MHz	20 Ohms	FUND
30.000 to 67.000 MHz	80 Ohms	3rd O.T.

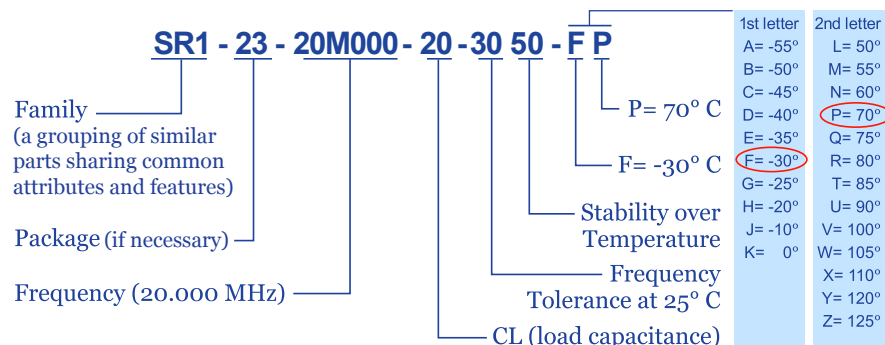
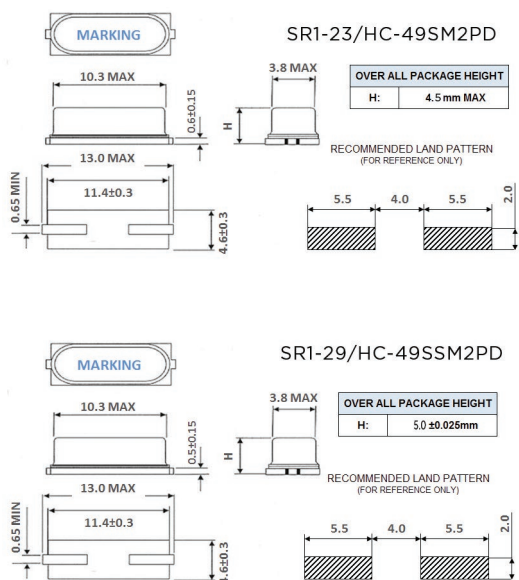
TABLE 2 - OPTIONAL TEMPERATURE RANGES

POPULAR TEMPERATURE RANGES
-10°C / +60°C
-20°C / +70°C
-40°C / +85°C

OTHER TEMPERATURE RANGES AVAILABLE - CONSULT FACTORY

Dimensions (Unit:mm)

*NKG Crystal Part Example Key



*NOT TO SCALE

Contact
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