

# SURFACE MOUNT QUARTZ CRYSTAL RESONATORS

## SMHF-49N



### FEATURES

- AT-cut crystal performance
- High reliability
- Low cost for high performance
- Excellent for automotive applications



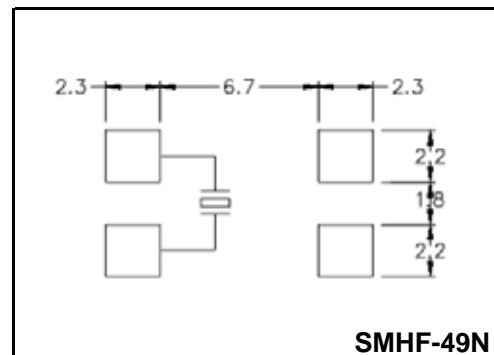
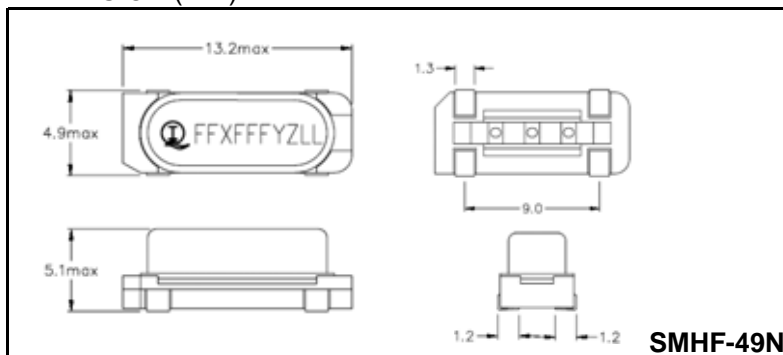
Item		Specifications
Nominal Frequency Range	$f_0$	3.5MHz ~ 40.0MHz (Fundamental)
		30.0MHz ~ 80.0MHz (3rd Overtone)
Frequency Tolerance, $T_a=25^\circ\text{C} \pm 3^\circ\text{C}$	$\Delta f/f$	$\pm 30\text{ppm}$
Load Capacitance	$C_L$	18pF, or customer specify
Frequency Tolerance over Operating Temperature Range	$\Delta f/f$	$\pm 30\text{ppm}$
Operating Temperature Range	$T_{\text{OPR}}$	$-10^\circ\text{C}$ to $70^\circ\text{C}$
Storage Temperature Range	$T_{\text{STG}}$	$-40^\circ\text{C}$ to $85^\circ\text{C}$
Drive Level	DL	0.1mW (1mW Max.)
Shunt Capacitance	$C_0$	7pF Max.
Insulation Resistance	IR	500M $\Omega$ Min.
Aging	$\Delta f_A$	$\pm 5\text{ppm/Year}$ Max.

SERIES RESISTANCE (ESR)							
Frequency Range	3.5< $f_0$ 4.5	4.5< $f_0$ 6.0	6.0< $f_0$ 8.0	8.0< $f_0$ 12.0	12.0< $f_0$ 15.0	15.0< $f_0$ 18.0	
ESR	120 $\Omega$ Max.	90 $\Omega$ Max.	70 $\Omega$ Max.	60 $\Omega$ Max.	40 $\Omega$ Max.	30 $\Omega$ Max.	

Frequency Range	18.0< $f_0$ 33.0	30.0< $f_0$ 35.0 (3.O.T)	35.0< $f_0$ 40.0 (3.O.T)	40.0< $f_0$ 80.0 (3.O.T)
ESR	25 $\Omega$ Max.	100 $\Omega$ Max.	80 $\Omega$ Max.	70 $\Omega$ Max.

Please consult our sales representatives for other specifications

### DIMENSION (mm)



All specifications are subject to change without notice.