

# CRYSTAL UNITS

## SMD TUNING FORK CRYSTAL

### D31N / D21N / D11N SERIES



#### Applications

#### Features

Actual Size:



- Miniature SMD Ceramic Package With Metal Lid
- Low Package Height And Extended Temperature Range
- Low Aging, Low Power Consumption, High Shock

#### Specification

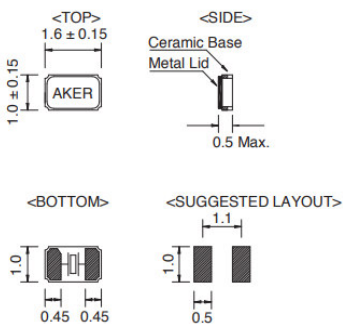
MODEL		D11N	D21N	D31N
<b>FREQUENCY</b>				
FREQUENCY RANGE	KHz	32.768		
FREQUENCY TOLERANCE ( 25 °C )	ppm	± 20		
PARABOLIC CURVATURE CONSTANT*	ppm / °C <sup>2</sup>	-0.035 Typ.		
TURNOVER TEMPERATURE RANGE	°C	+ 20 ~ + 30		
<b>ENVIRONMENTAL CONDITION</b>				
OPERATING TEMPERATURE RANGE	°C	- 40 ~ + 85		
STORAGE TEMPERATURE RANGE	°C	- 55 ~ + 125		
AGING / YEAR	ppm	± 3		
<b>ELECTRICAL SPECIFICATIONS</b>				
TEST CIRCUIT		S&A 250B With π Fixture		
LOAD CAPACITANCE	pF	7 / 9 / 12.5		
DRIVE LEVEL	uW	0.5 Max.	0.5 Max.	1.0 Max.
EQUIVALENT SERIES RESISTANCE	Ω	90K Max.	90K Max.	70K Max.
SHUNT CAPACITANCE	pF	1.2 Typ.	1.1 Typ.	1.2 Typ.
MOTIONAL CAPACITANCE	fF	6.0 Typ.	3.5 Typ.	3.7 Typ.
INSULATION RESISTANCE	Ω	500M Min.		

\*Frequency stability is given as  $\Delta F/F_0 = K(T-T_0)^2$ , where K is parabolic curvature constant.

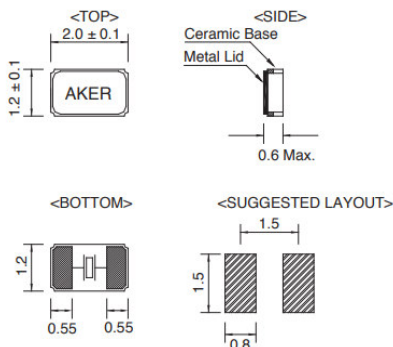
\*\*Specification subject to change without notice.

#### Dimension(mm)

##### D11N



##### D26N



##### D31N

