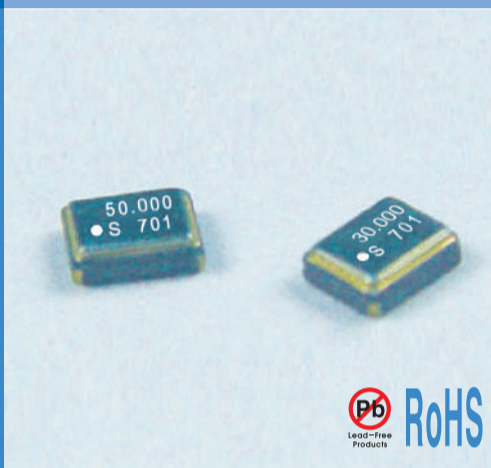


## CRYSTAL OSCILLATORS

### CERAMIC SMD TYPE SCO-32

- Ceramic SMD package
- 0.9 / 1.2 / 1.5 / 1.8 / 2.5 / 3.3 supply voltage
- HCMOS output
- Stability to  $\pm 20\text{ppm}$
- Tri-state function available
- Reflow soldering is possible
- Available on tape and reel

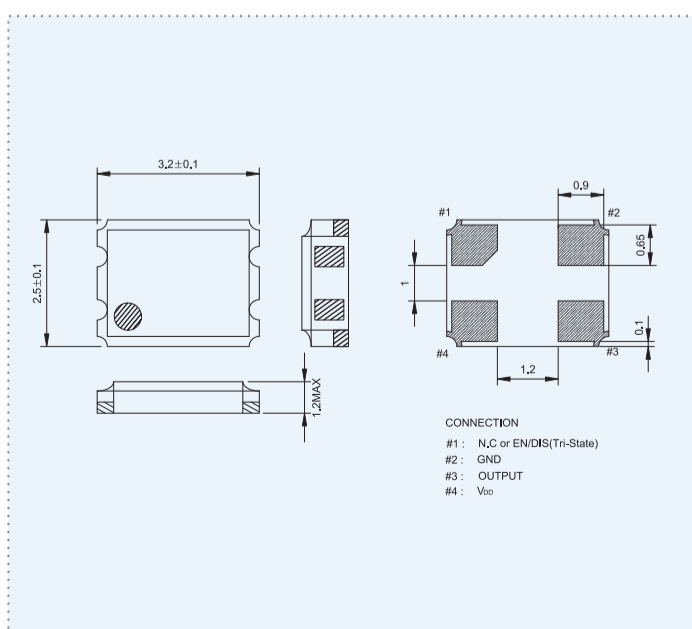


### ELECTRICAL SPECIFICATIONS

Frequency Range	1.000 to 60.000MHz	
Operating Temperature Range	0 to +70°C or -40 to +85°C	
Storage Temperature Range	-55 to +125°C	
Frequency Tolerance / Stability	Inclusive of Operating Temperature Range, Supply Voltage, and Load	$\pm 100\text{ppm}$ , $\pm 50\text{ppm}$ or $\pm 25\text{ppm}$ , $\pm 20\text{ppm}$
Supply Voltage(V <sub>DD</sub> )	0.9, 1.2, 1.5 V <sub>DC</sub> $\pm 5\%$ , 1.8, 2.5, 3.3 V <sub>DC</sub> $\pm 10\%$	
Input Current	10mA max.	
Output Voltage Logic High(V <sub>OH</sub> )	w/HCMOS Load	90% of V <sub>DD</sub> min.
Output Voltage Logic Low(V <sub>OL</sub> )	w/HCMOS Load	10% of V <sub>DD</sub> max.
Rise / Fall Time	1.000 to 60.000MHz	10ns max.
Duty Cycle	50 $\pm 10\%$ (STD) 50 $\pm 5\%$ (Optional)	
Load Drive Capability	15pF HCMOS Load(STD)	
Pin 1 Tri-state Input Voltage	No Connection V <sub>IH</sub> : $\geq 0.7V_{DD}$ V <sub>IL</sub> : $\leq 0.3V_{DD}$	Enable Output Enable Output Disable Output : High Impedance
Aging (at 25°C)	$\pm 3\text{ppm}$ , $\pm 5\text{ppm/year max.}$	
Start-up Time	10ms max.	
Period Jitter : pk-pk	$\pm 100\text{ps max.}$	
Period Jitter : One Sigma	$\pm 25\text{ps max.}$	
Phase Jitter(12kHz to 20MHz)	1 ps max.	

### MECHANICAL DIMENSIONS

(mm)



### LAND PATTERN

(mm)

