

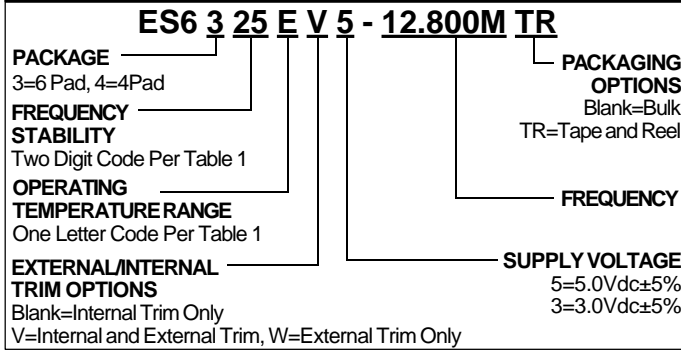
# SINEWAVE (VC) TCXO OSCILLATOR

Surface Mount *ES63* and *ES64* Series 5.0V<sub>DC</sub> or 3.3V<sub>DC</sub>



## PART NUMBERING GUIDE

## TABLE 1: PART NUMBERING CODES



OPERATING TEMPERATURE	FREQUENCY STABILITY (ppm) (X Denotes Availability for all Frequencies, 0 Denotes Standard Frequency Availability Only)				
	1.5ppm	2.0ppm	2.5ppm	3.0ppm	
Range					
	Code	15	20	25	30
0°C to 50°C	A	0	X	X	X
-10°C to 60°C	B	0	X	X	X
-20°C to 70°C	C	0	X	X	X
-30°C to 60°C	D		X	X	X
-30°C to 75°C	E		X	X	X

## ELECTRICAL SPECIFICATIONS

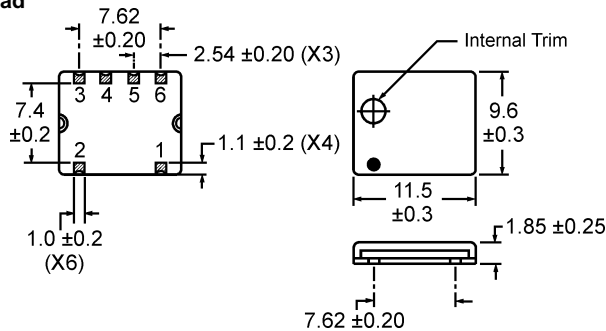
## Marking Specifications See pg. G2, Group G

<b>Frequency Range</b>	10.000MHz to 22.000MHz (Standard Frequencies: 12.800MHz, 13.000MHz, and 14.400MHz)	
<b>Storage Temperature Range</b>	-30°C to 85°C	
<b>Operating Temperature Range</b>	See Table 1 Above	
<b>Supply Voltage (V<sub>DD</sub>)</b>	5.0V <sub>DC</sub> ±5% or 3.0V <sub>DC</sub> ±5%	
<b>load Drive Capability</b>	10kOhms // 10pF	
<b>Input Current</b>	2.0mA Maximum	
<b>Aging</b>	±1ppm / Year Maximum	
<b>Frequency Deviation Options</b>	w/ Internal Trim Only	±3ppm Minimum
<b>External Trim</b>	w/ External and Internal Trim	±5ppm Minimum w/ Control Voltage of 2.5V <sub>DC</sub> ±2.0V <sub>DC</sub> (w/ 5.0V <sub>DC</sub> Supply Voltage); 1.5V <sub>DC</sub> ±1.0V <sub>DC</sub> (w/ 3.0V <sub>DC</sub> Supply Voltage); Positive Transfer Characteristic; ±3ppm Minimum (Internal Trim).
<b>(w/ Control Voltage) / Internal Trim (Top of Can)</b>	w/ External Trim Only	±8ppm Minimum w/ Control Voltage of 2.5V <sub>DC</sub> ±2.0V <sub>DC</sub> (w/ 5.0V <sub>DC</sub> Supply Voltage); 1.5V <sub>DC</sub> ±1.0V <sub>DC</sub> (w/ 3.0V <sub>DC</sub> Supply Voltage); Positive Transfer Characteristic.
<b>Output Voltage</b>	w/ 5.0V <sub>DC</sub> ±5% Supply Voltage	1.0V <sub>p-p</sub> Clipped Sinewave Minimum
	w/ 3.0V <sub>DC</sub> ±5% Supply Voltage	0.7V <sub>p-p</sub> DC Cut Clipped Sinewave Minimum
<b>Frequency Stability</b>	vs. Operating Temperature	See Table 1 Above
	vs. Frequency Tolerance (25 ±2°C)	±0.5ppm Maximum w/ Internal Trim Only, ±0.5ppm Maximum w/ Internal and External Trim, ±2ppm Maximum w/ External Trim Only
	vs. Input Voltage (±5%)	±0.3ppm Maximum
	vs. Load (±1kΩ//±1pF)	±0.3ppm Maximum

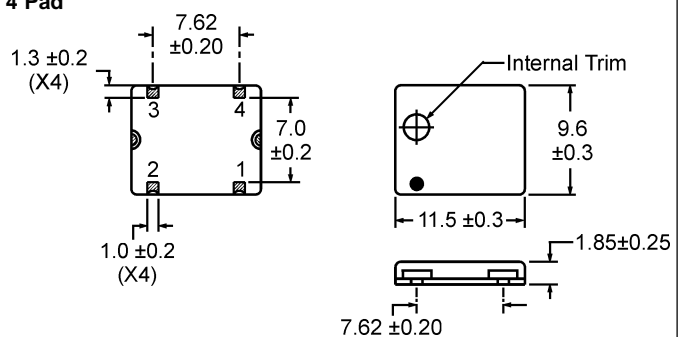
## MECHANICAL DIMENSIONS

## Environmental / Mechanical Specifications See pg. H2, Group F

### 6 Pad



### 4 Pad



Pin 1: Ground	Pin 3: Output	Pin 5: Voltage Control or No Connect	Pin 1: Voltage Control or No Connect	Pin 3: Output
Pin 2: Ground	Pin 4: Ground	Pin 6: Supply Voltage	Pin 2: Ground/Case Ground	Pin 4: Supply Voltage

**E21**

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Specifications subject to change without notice. • Contact factory for latest revision • 1/99 (OS36) (OS37)