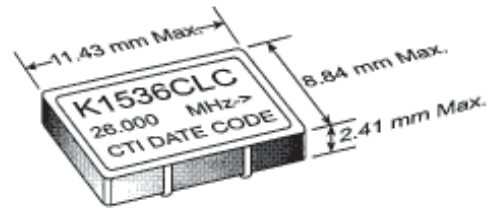


# K1536CLC Series

## 3.3V 9x11mm Surface Mount Voltage Controlled Crystal Oscillator



- **Applications:** Phase-Locked Loops (PLL's); Clock Recovery; Reference Signal Tracking; Synthesizers; Frequency Modulation/Demodulation
- Ceramic Construction, Medal Lid
- 2.0 to 80 MHz Frequency Range
- 0.3V to 3.3V Control Voltage
- $\pm 25$ ppm Stability (Typical)
- $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$  Operating Temperature Option
- Tape and Reel Available
- Ground Shielded Top and Bottom 4-Pin SOJ-20 Footprint
- J-Leads Seam-sealed, Resistance Welded Hermetic Package



ELECTRICAL SPECIFICATIONS		
MODEL	K1536CLC	
Frequency Range (MHz)	2 to 55	55.1 to 80
Frequency Stability (ppm)	Inclusive of calibration, temperature, voltage, load, shock, vibration, aging	
Overall (Typical)		
0°C to 70°C	$\pm 25$	$\pm 40$
$-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$	$\pm 50$	$\pm 60$
Frequency Control Function	(for CMOS, TTL, Voltage, temperature, and supply voltage)	
Deviation (Typical)	$\pm 12$	$\pm 100$
Minimum Tuning Limit (0°C to 70°C)	$\pm 60$	$\pm 40$
Minimum Tuning Limit (0°C to $+85^{\circ}\text{C}$ )	$\pm 5$	$\pm 20$
Linearity	$< 10\%$	
Modulation Bandwidth ( $\pm 3\text{dB}$ )	$> 20$ KHz	
Nominal Control Voltage (V)	1.65	
Control Voltage Range (V)	0.3 to 3.0	
Transfer Function	Positive	
Input Impedance	$> 50$ K $\Omega$ @ 10 KHz	
Temperature Range ( $^{\circ}\text{C}$ )		
Operating	$-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$	
Storage	$-40^{\circ}\text{C}$ to $+125^{\circ}\text{C}$	
Supply Voltage (V)	$+3.3 \pm 10\%$	
Input Current (mA)	$< 30$	
Start Up Time (ms)	$< 10$	
Symmetry (%) CMOS	40/60	
Start up Time (ms)	$< 10$	
Typical SSB Phase Noise (dBc/Hz)	10Hz	-65
Offset from Carrier	100Hz	-95
	1KHz	-115
	10KHz	-130
	100KHz	-140

OBSOLETE

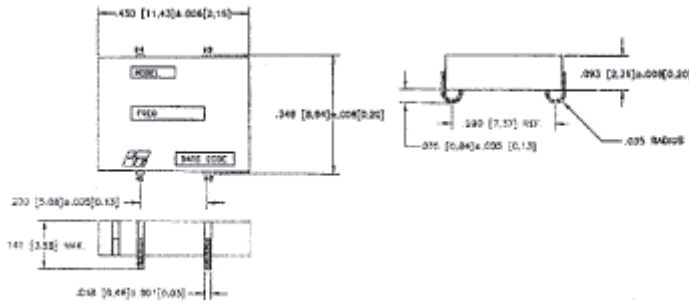
PART NUMBERING GUIDE	
K1536CLC	X X - Specify Frequency
	"Blank" = CMOS 40%/60%
	"C" = CMOS 45%/55%
	"Blank" = 0°C to 70°C Operating Temp.
	"M" = $-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ Operating Temp.

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# K1536CLC Series

## 3.3V 9x11mm Surface Mount Voltage Controlled Crystal Oscillator



PIN	FUNCTION
1	Voltage Control
2	Gnd & Ground Plane
3	Output
4	+V <sub>CC</sub>

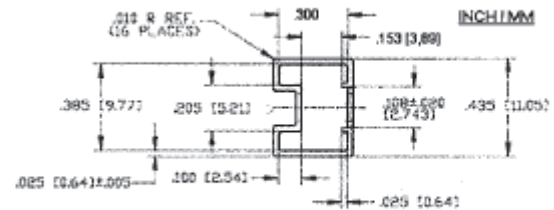
### TAPE & REEL SPECIFICATIONS

**Tape & Reel**  
**Shipping Tape**  
 Size: 24mm  
 Material: Black PVC,  
 Conductive .012" thick  
**Shipping Reel**  
 Size: 13" diameter  
 Material: Plastic



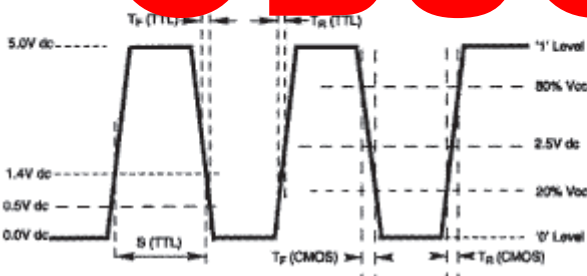
**13" Reel**  
 Tape Length: 16.5 yds  
 Max. No. of Pockets: 750  
 Leader Length: 16" min.  
 Trailer Length: 14" min.  
 Q.C. Sample Quantity: 10 pcs.  
 Product/Reel: 500  
 Cover Tape Thickness: .002"  
 Cover Peel Strength: 75g  
 Note: Minimum Order is 500

### SHIPPING TUBE CROSS SECTION

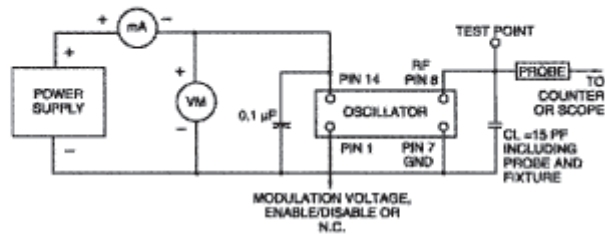


# OBSOLETE

### OUTPUT WAVEFORM



### TEST CIRCUIT DIAGRAM



### MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

TEST METHODS	REFERENCE PROCEDURES	DESCRIPTION
Temperature Cycle	MIL-STD-833, Mtd 1010, Cond. B	-55°C to +125°C; Air-to-Air; 100 cycles; 10 min. dwell
Mechanical Shock	MIL-STD-883, Mtd 2002, Cond. B	1500 g's
Vibration	MIL-STD 883, Mtd 2007, Cond. B	20-2000 Hz; 0.06 inch; 15g's; 3 planes
Humidity Steady State	MIL-STD-202, Mtd 103	40°C; 90%-95% R.H.; 56 days
Thermal Shock	MIL-STD-883, Mtd 1011.7 Cond. B	100°C to 0°C; Water-to-Water; 15 cycles
Electrostatic Discharge	MIL-STD-883, Mtd 3015 Class II	2 KV to 4 KV Threshold
Solderability	MIL-STD-883, Mtd 2022.2	Solder dip; Meniscograph Criteria
Hermeticity	MIL-STD-883, Mtd 1014.8, Cond. A1	Mass spectro. 2 x 10 <sup>-8</sup> atmos. CC/sec He
Resistance to Soldering	MIL-STD-202, Mtd 210D, Cond. J	235°C; 30 seconds
Lead Integrity	MIL-STD-883, Mtd 2004.5, Cond. A, B1	Lead tension & bend stress
Marking Permanence	MIL-STD-883, Mtd 2015.8	Resistance to solvents
Life Test	MIL-STD-883, Mtd 1005.6	125°C. powered. 1000 hours minimum

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