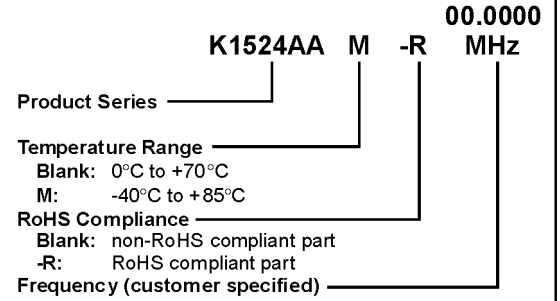


# K1524A Series

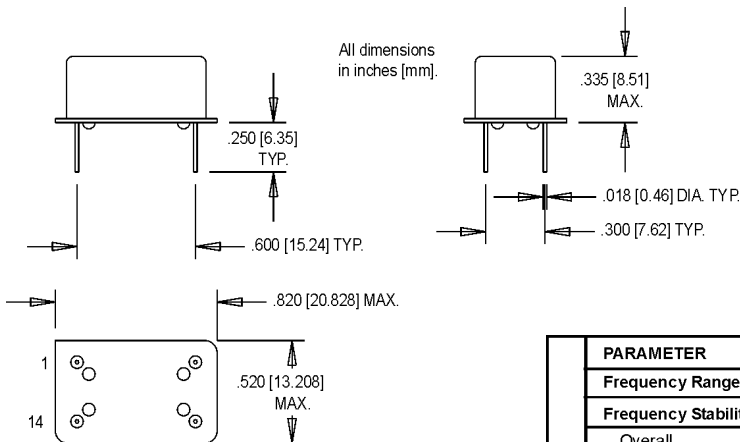
14 pin DIP, 5.0 Volt, CMOS/TTL, VCXO



## Ordering Information



- Former **Champion** TECHNOLOGIES, INC. Product
- Phase-Locked Loops (PLL's), Clock Recovery, Reference Signal Tracking, Synthesizers, Frequency Modulation/Demodulation



## Pin Connections

PIN	FUNCTION
1	Voltage Control
7	Ground/Case Ground
8	Output
14	+Vdd

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition	
Electrical Specifications	Frequency Range	F	3		35	MHz		
	Frequency Stability:	$\Delta F/F$						
	Overall		Inclusive of Calibration, Temperature, Voltage, Load, and Aging					
	0°C to +70°C				±50	ppm		
	-40°C to +85°C				±70	ppm		
	Pullability		±300		±525	ppm		
	Linearity				15	%		
	Modulation Bandwidth	fm	>20			kHz	±3dB	
	Control Voltage	Vc	0.5	2.5	4.5	V		
	Transfer Function		Positive					
	Input Impedance		>50K $\Omega$				@ 10 kHz	
	Operating Temperature	T <sub>A</sub>	-40		+85	°C		
	Storage Temperature	T <sub>s</sub>	-40		+125	°C		
	Input Voltage	Vdd	4.75	5.0	5.25	V		
	Input Current	I <sub>dd</sub>			26	mA		
	Symmetry (Duty Cycle)		40		60	%	@ 50% Vdd	
	Rise Time (TTL)	T <sub>r</sub>			4	ns	20% to 80% Vdd	
	Rise Time (CMOS)	T <sub>r</sub>			5	ns	20% to 80% Vdd, CL=15pF	
	Fall Time (TTL)	T <sub>f</sub>			4	ns	80% to 20% Vdd	
	Fall Time (CMOS)	T <sub>f</sub>			4	ns	80% to 20% Vdd, CL=15pF	
Logic "1" Level	V <sub>oh</sub>	Vdd-0.5			V			
Logic "0" Level	V <sub>ol</sub>			0.5	V			
Start up Time				10	ms			
Phase Noise (Typical)		10 Hz	100 Hz	1 kHz	10 kHz	100 kHz	Offset from carrier	
		-65	-95	-120	-140	-150		
Environmental	Temperature Cycle	MIL-STD-883, Method 1010, Condition B				-55°C to +125°C; Air-to-Air; 100 cycles; 10 min. dwell		
	Mechanical Shock	MIL-STD-883, Method 2002, Condition B				1500 g's		
	Vibration	MIL-STD-883, Method 2007, Condition B				20-2000 Hz; 0.06 inch; 15 g's; 3 planes		
	Humidity Steady State	MIL-STD-202, Method 103				40°C; 90%-95% R.H.; 56 days		
	Thermal Shock	MIL-STD-883, Method 1011.7, Cond. B				100°C to 0°C; Water-to-Water; 15 cycles		
	Electrostatic Discharge	MIL-STD-883, Method 3015, Class II				2 KV to 4 KV Threshold		
	Solderability	MIL-STD-883, Method 2022.2				Solder dip; Meniscograph Criteria		
	Hermeticity	MIL-STD-883, Method 1014.8, Cond. A1				Mass spectro. 2 x 10 <sup>-8</sup> atoms. CC/sec He		
	Lead Integrity	MIL-STD-883, Mtd. 2004.5, Cond. A,B1				Lead tension & bend stress		
	Marking Permanence	MIL-STD-883, Method 2015.8				Resistance to solvents		
Life Test	MIL-STD-883, Method 1005.6				125°C, powered, 1000 hours minimum			

MtronPTI reserves the right to make changes to the product(s) and service(s) described herein without notice. No liability is assumed as a result of their use or application.

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## MtronPTI Lead Free Solder Profile

240°C  
All the remaining surface mount,  
both crystal and oscillator.

