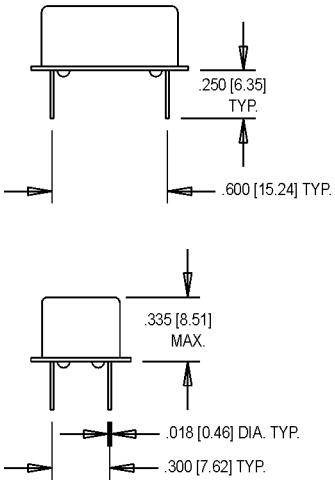
K1524A Series
14 DIP, 5.0 Volt, CMOS/TTL, VCXO

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

Ordering Information

K1524AA X 00.0000 MHz

- Product Series
- Temperature Range
  - Blank: 0°C to +70°C
  - M: -40°C to +85°C
- Frequency (customer specified)



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:	ΔF/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		>50KΩ				@ 10 kHz
	Operating Temperature	TA	-40		+85	°C	
	Storage Temperature	Ts	-40		+125	°C	
	Input Voltage	Vdd	4.75	5.0	5.25	V	
	Input Current	Idd			26	mA	
	Symmetry (Duty Cycle)		40		60	%	@ 50% Vdd
	Rise Time (TTL)	Tr			4	ns	20% to 80% Vdd
	Rise Time (CMOS)	Tr			5	ns	20% to 80% Vdd, CL=15pF
	Fall Time (TTL)	Tf			4	ns	80% to 20% Vdd
	Fall Time (CMOS)	Tf			4	ns	80% to 20% Vdd, CL=15pF
	Logic "1" Level	Voh	Vdd-0.5			V	
	Logic "0" Level	Vol			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-toAir; 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 10-8 atoms. CC/sec He	
	Resistance to Soldering	See Page 147					
	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	

M-tron Industries, Inc., PO Box 630, Yankton, SD 57078-0630, USA Phone: 605-665-9321 or 1-800-762-8800 Fax: 605-665-1709 Website: www.mtron.com
M-tron Industries Limited, 1104 Shanghai Industrial Investment Building, 48-62 Hennessy Road, Wanchai, Hong Kong, China Phone: 852-2866-8023 Fax: 852-2529-1822