

Ultra Low Phase Noise, Precision SC-cut HF OCXO in Miniature 15x21x11mm DIL14 Compatible Package



ESD Sensitive

20.8 x 15.24 x 11.05 mm

Datasheet #1745A

Electrical (cont.)

Parameters	Symbol	Condition	Min	Typ	Max	Unit	Notes
Input Voltage	Vcc		4.75 3.165	5.0 3.30	5.25 3.465	V	See chart below to specify
Power consumption Still air 3*, 10MHz	P	steady state, 25 °C operating temp range to 70°C start-up		0.4 0.3 0.2 1.2	0.5 0.4 0.25 1.5	W	Grade "N" Grade "A" Grade "X"
Spectral Purity		Subharmonics Spurious Harmonics		none -35	-80 -30	dBc	
Load		10KOhm//15pF (HCMOS/TTL), AC-coupled 50 Ohm (Sine-wave)					Output code T Output code S
Warm -up time	τ	to 0.10ppm accuracy to 0.25ppm			90 60	seconds	
Output Power			+8	+10		dBm	10 MHz, Output Code S
Logic 1 (CMOS)	Voh		0.7 Vref			V	Output Code T
Logic 0 (CMOS)	Vol				0.1 Vref	V	Output Code T
Control Voltage	Vc		0		Vref	V	4*
Reference Voltage	Vref			4.5 3.0		V	5 V supply 3.3 V supply
Output Impedance at Vref	Rref			100		Ohm	
Pull range		from nominal F, 10MHz	± 0.5 ± 0.4	± 0.7 ± 0.5		ppm	5 V supply 3.3 V supply
Deviation slope		Monotonic, posit. 10MHz		0.3 0.33		ppm/V	5 V supply 3.3 V supply
Input impedance	Zin	At Vc pin	10			KOhm	
Modulation bandwidth	Fm		DC		1	KHz	
Setability	Vc0	@25°C, Fnom.	Vref/2-0.25	Vref/2	Vref/2 + 0.25	V	10 MHz 5*
Initial calibration		Vc = Vref/2 @25°C			± 100	ppb	10 MHz

Environmental and Mechanical

Parameter	Description
Operating temp. range	-40°C to 85°C MAX, Other options-see chart below
Storage Temperature	-50°C to 90°C
Mechanical Shock	Per MIL-STD-202, 30G, 11ms
Vibration	Per MIL-STD-202, 5G to 2000 Hz
Soldering Conditions	260°C for 10s Max leads only

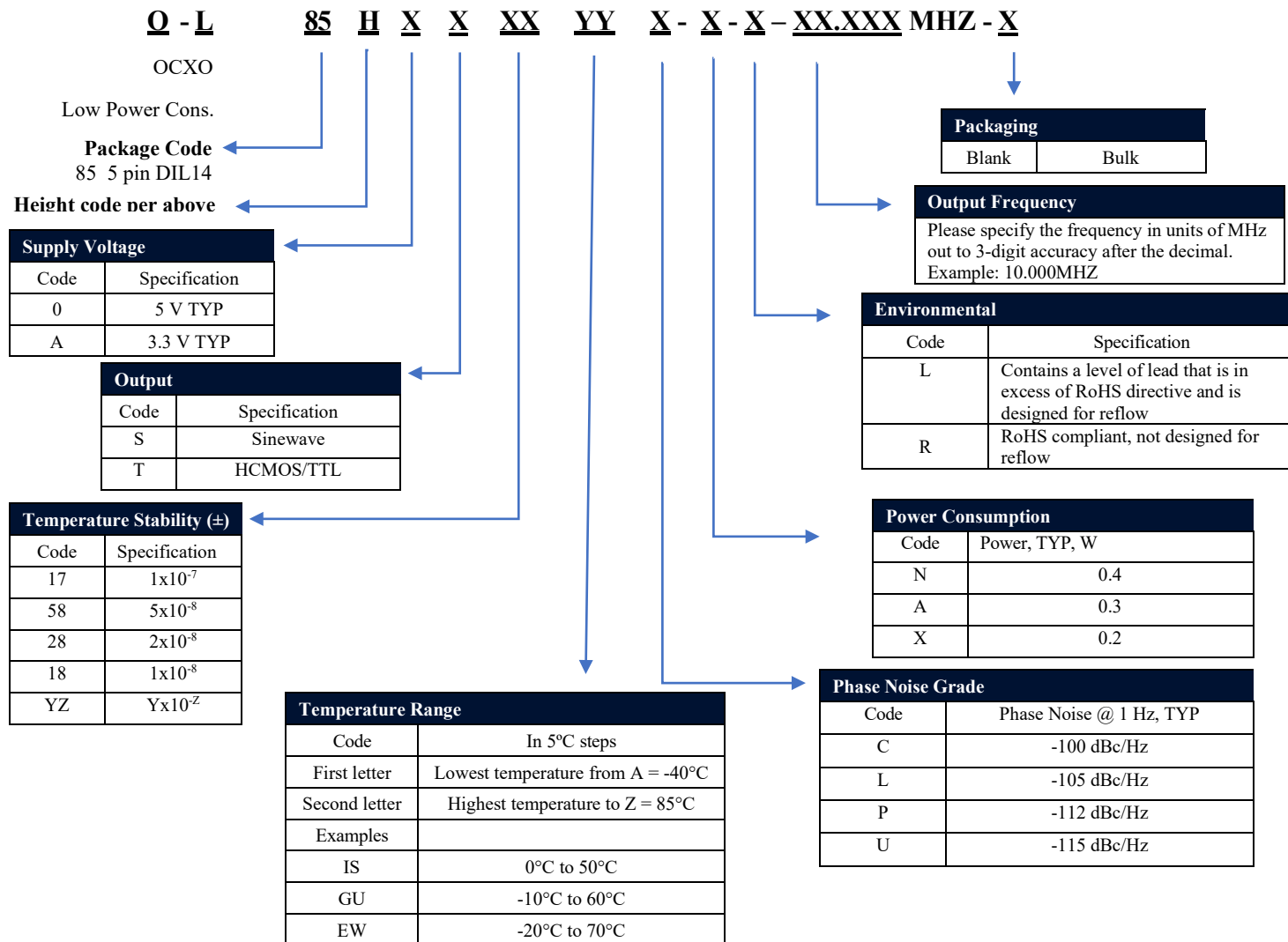
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Creating a Part Number



Not all combinations are available. Consult Factory.

Temperature Code Table

Letter	Temp °C	Letter	Temp °C	Letter	Temp °C	Letter	Temp °C	Letter	Temp °C	Letter	Temp °C
A	-40	F	-15	K	10	P	35	U	60	Z	85
B	-35	G	-10	L	15	Q	40	V	65		
C	-30	H	-5	M	20	R	45	W	70		
D	-25	I	0	N	25	S	50	X	75		
E	-20	J	5	O	30	T	55	Y	80		

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Notes:

- 1* Aging rates are proportional to the operating frequency. Pull range will be adjusted accordingly to provide for lifetime possibility to set on frequency
- 2) Specifications for $V_{cc}=5.0$ V. At $V_{cc}=3.3$ V phase noise may slightly deteriorate from those values. Close to the carrier phase noise deteriorates with increase in frequency.
- 3* Power consumption listed in the table is for 10.000 MHz, CMOS output. Sine wave output would consume slightly more power dissipating it in the 50 Ohm load. With increase in upper operating temperature, the power consumption will increase about 15 to 30 mW per 5°C depending on the grade.
- 4* If V_{ref} is not used for adjusting the frequency, V_c range can be increased to 5.0 V with either V_{cc} option.
- 5* The V_c input may or may not be internally biased to roughly $V_{ref}/2$. If internal bias is needed-it has to be specified on PO.
- 6* All parameters, unless otherwise specified, are at nominal conditions, ie: $T=25^{\circ}\text{C}$, Nominal V_{cc} & Nominal Load.

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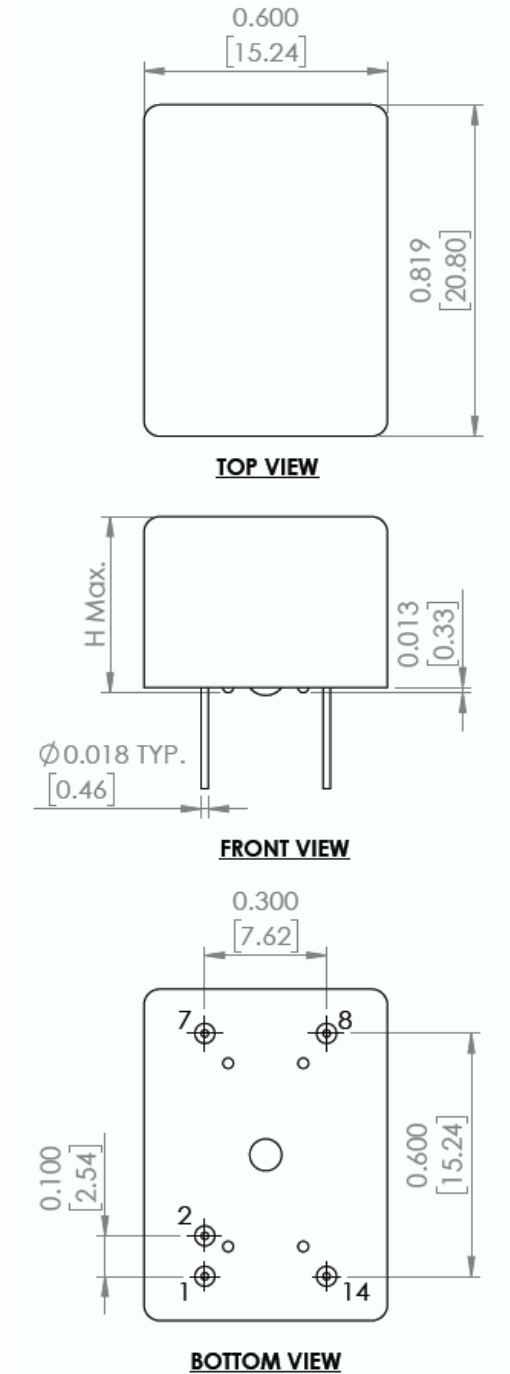


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Mechanical Dimensions



H Code	Height, inches (mm) TYP
S	0.435 (11.05mm)
L	0.425 (10.8mm)

Pin #	Function
1	V _c
2	V _{ref}
7	GND
8	Output
14	V _{cc}

Dimensions: inches [mm]

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Phase Noise Plot

