

AT-Cut Crystal - Square Wave - 5.0 Volts

- Frequency Range 1.25MHz to 100.0MHz
- 20.3 x 20.3 x 10.5mm 5 pin metal, solder-sealed package
- Supply Voltage 5.0 Volts
- AT-Cut Crystal
- Squarewave Output
- EFC (Voltage control) as standard



DESCRIPTION

OC18T5A series oven-controlled crystal oscillators are close tolerance OCXOs with good phase noise performance.

SPECIFICATION

Crystal Cut:	AT-cut
Output Waveform:	Square Wave
Supply Voltage:	+5.0 VDC $\pm 0.2V$
Frequency Range:	1.25MHz to 100.0MHz
Initial Calibration Tolerance:	$\pm 0.5ppm$ max. (at V_{CON} 2.5V)
Frequency Stability	
over 0° to +60°C:	$\pm 0.02ppm$
over -20° to +70°C:	$\pm 0.05ppm$
over -40° to +85°C:	$\pm 0.1ppm$
vs. Voltage Change:	$< \pm 20ppb$ for $\pm 5\%$ change
vs. Ageing:	$\pm 5.0ppb$ max per day $\pm 0.5ppm$ per first year $\pm 3.0ppm$ over 10 years
vs. Load Change:	$< \pm 20ppb$ for $\pm 5\%$ change

Warm-up Time: 3 minutes max. to within $\pm 0.5ppm$ of nominal freq.

Voltage Control	
Control Voltage Centre:	+2.5 Volts (V_{CON})
Freq. Deviation Range:	$\pm 5.0ppm$ min., $\pm 20ppm$ max. ref. to 25°C and O.T.R.
Control Voltage Range:	2.5V ± 2.0 Volts
Transfer Function:	Positive: Increasing control voltage increases output frequency.
Input Impedance:	100k Ω minimum
EFC Linearity:	$\pm 10\%$ maximum

Power Dissipation: 200mA max. steady state
500mA max. at turn on

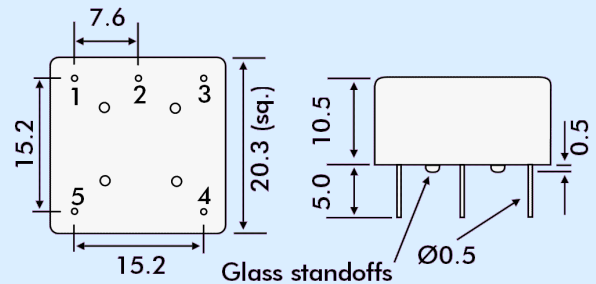
Output	
Load:	15pF HCMOS
Output Logic HIGH:	+4.5V minimum
Output Logic LOW:	0.5V maximum
Duty Cycle:	50% $\pm 10\%$
Rise/Fall Time:	5ns max (20%~80%) Frequency dependant
Reference Voltage:	+4.0 $\pm 0.3VDC$ or custom

Environmental	
Storage Temperature:	-55° to +125°C
Shock:	2000g, 0.3ms $\frac{1}{2}$ sine
Vibration:	10 ~2000Hz / 10g

PHASE NOISE (at 10MHz)

Offset	dBc/Hz
1Hz	-75
10Hz	-100
100Hz	-130
1kHz	-140
10kHz	-150

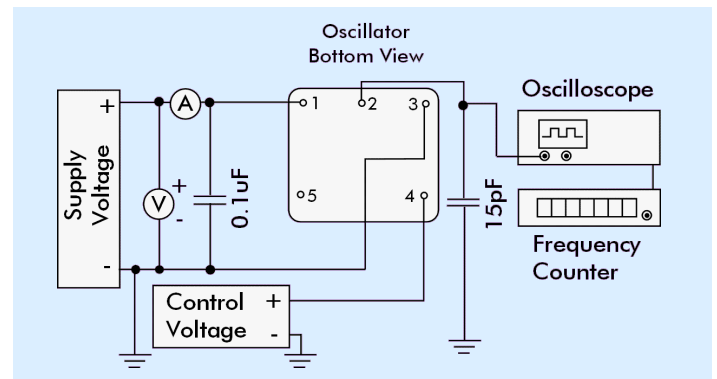
OUTLINE & DIMENSIONS



Pin Connections

- 1 Supply Control
- 2 RF Output
- 3 Ground/case
- 4 Voltage Control EFC
- 5 Reference Voltage Output

TEST CIRCUIT



PART NUMBER FORMAT

Example: **OC18GT5A-10.000-0.05/-20+70**

