

## Temperature Compensated Crystal Oscillator

- Excellent frequency stability
- Miniature size, reflow soldering available
- Clipped sine output, tight specifications and an internal trimmer
- Suited for communications equipment, cellular radios, and instrumentation.

# TO519

### Specifications:

**Frequency Range:** 10.000 MHz ~ 26.0000 MHz

**Operating Temperature:**

0°C ~ +50°C	- A
-10°C ~ +60°C	- B
-20°C ~ +70°C	- C
-30°C ~ +75°C	- D
-40°C ~ +85°C	- L

**Storage Temperature:** -40°C ~ +85°C

### Frequency Stability:

Vs. Temperature:	± 5.0 ppm
	± 3.0 ppm
	± 2.5 ppm
Vs. Input Voltage:	± 0.2 ppm at voltage ± 5%
Vs. Load:	± 0.2 ppm at load ± 10%
Aging:	± 1.0 ppm max first year

### Pulling Range:

$V_{SS}+0.5V \sim V_{CC}-0.5V$ :	5 ~ 16 ppm/V (optional)
Control Slope:	Positive

**Start-Up Time:** 8 ms max

**Output Waveform:** Clipped Sine/10K $\Omega$ /10pF -S  
CMOS/15pF/50±5% -C

**Output Voltage:** 0.8 V<sub>p-p</sub> min.

**Phase Noise:**

-110 dBc/Hz (offset 100Hz)
-130 dBc/Hz (offset 1KHz)
-140 dBc/Hz (offset 10KHz)

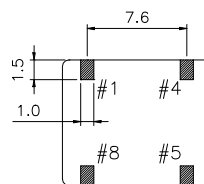
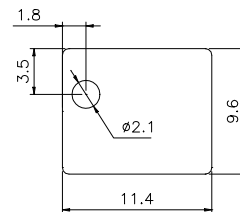
**Supply Voltage:** +3.3 VDC (± 0.2%)  
+5.0 VDC (± 0.3%) - P

**Supply Current:** 2.0 mA max

### Note:

1. Other frequencies, stabilities, and operating temperature ranges available. Consult VTC Support for specific requirements.
2. Not all combinations of the above, stabilities, and temperature ranges are available. Consult VTC Support if your requirement is not standard.
3. All specifications subject to change without notice.

### TO-I



Pin	Configurations
#1	VC or NC
#4	Ground
#5	Output
#8	Supply V <sub>DD</sub>

All dimensions are in mm

### Ordering Information

Product name + Operating Temperature + Stability + Frequency (MHz) + Other Specification Code.

i.e. TO519B2.5S-8.0MHz ±2.5ppm/-10°C~+60°C/3.3V  
Or TO519D2.5CP-8.0MHz ±2.5ppm/-30°C~+75°C/5.0V