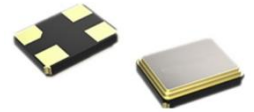


### MAIN FEATURE

- Ultra-small SMD Package, Seam Sealed Ceramic-Metal, 4pads
- High precision & High frequency stability

### APPLICATION

- Small Bluetooth & wireless device • IoT, Health care equipment

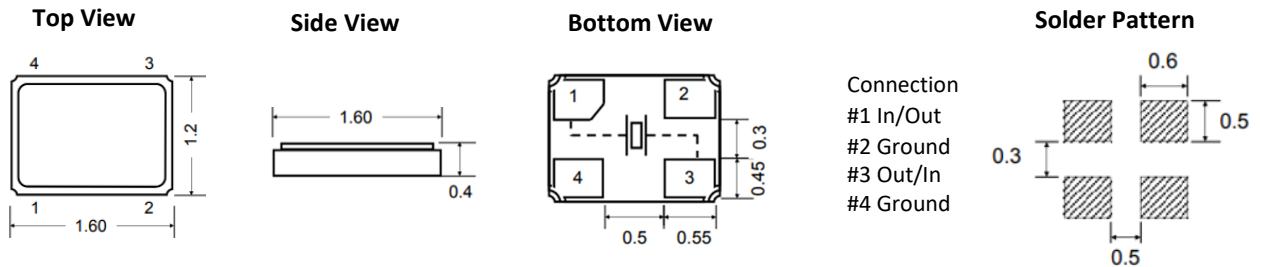


L1.6\*W1.2\*H0.40mm

### STANDARD SPECIFICATION

Parameter	Value			Unit	Condition
	Min.	Type	Max.		
Frequency Range	24.00		96.00	MHz	
Oscillation Mode	AT Fund.				
Frequency Tolerance	-	±50		ppm@25 °C	See p/n guide for more option
Operating Temp. Range	-40	-	+85	°C	See p/n guide for more option
Storage Temp. Range	-55	-	+125	°C	
Load Capacitance(CL)	-	18	-	pF	See p/n guide for more option
Frequency Stability	-	±50	-	ppm	See p/n guide for more option
Equivalent Series Resistance (ESR)			150	ohm	@24.000 ~ 32.0MHz
			100		@32.001~38.00MHz
			80		@38.001~96.00MHz
Drive Level	-	-	100	μW	
Shunt Capacitance	-	-	7.0	pF	
Insulation Resistance	500	-		mW	DC/100V +10%
Aging per year	-	±3		ppm	@25 °C

### DIMENSION (mm)



### PART NUMBER GUIDE

Example: TGS CM11 48M0A50-18-50-40-80 TLF

[Part Number and Part Code Structure](#)

TGS	CM11	48M0	A	50	-18	-50	-40	-80	T	LF	XX
1	2	3	4	5	6	7	8	9	10	11	12

- 1) TGS: Company Code
- 2) CM11: SMD Crystal, 4 pads, L1.6\*W1.0\*H0.40mm
- 3) 48M0: Frequency Range 48.000MHz or specify detail frequency range
- 4) A: Oscillation Mode, A: AT Fund.
- 5) 50: Freq. tolerance, 50: +/-50ppm; 10: +/-10ppm; 20: +/-20ppm; 30: +/-30ppm or Specify detail value
- 6) 18: Load Capacitance(CL), 15: 15pF; 18: 18pF; 20: 20pF; 30: 30pF or Specify detail CL value
- 7) 50: Frequency Stability, 50: +/-50ppm; 10: +/-10ppm; 20: +/-20ppm; 30: +/-30ppm or Specify detail value
- 8) 40: Operating Temp. Range, 40: -40°C ~+85°C; 10: -10°C ~+60°C; 20: -20°C ~+70°C; or Specify detail value
- 9) 80: Equivalent Series Resistance (ESR), 80: 80 ohm Max.
- 10) T: Package in Tape/Reel, 3000pcs/Reel
- 11) LF: RoHS Compliant
- 12) XX: Internal Control Code- 2 letter or digits ; Blank: N/A