

SXO-4075CM SERIES (+1.8 V to +3.3 V FIXED MODELS) 7.0x5.0 mm

STANDARD SMD TCXO

XTAL

CLK OSC

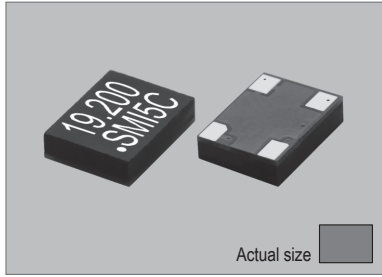
VCXO

TCXO

OCXO

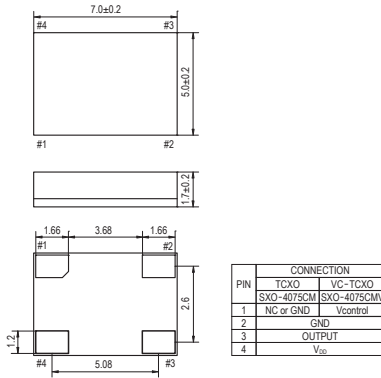
MCF

SXO-4075CM

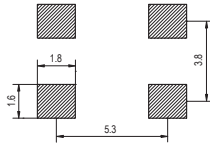


Actual size 0.13 gm (wt.)

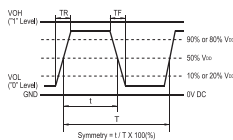
SXO-4075CM



SOLDERING PATTERN

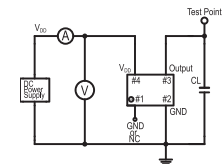


OUTPUT WAVEFORM



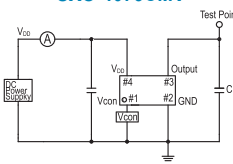
TEST CIRCUIT

SXO-4075CM



By-pass capacitor is built in the oscillator. CL: including fixture and probe capacitance.

SXO-4075CMV



By-pass capacitor is built in the oscillator. CL: including fixture and probe capacitance.

STANDARD SPECIFICATIONS

CMOS OUTPUT
PACKAGE SIZE 7.0x5.0 mm

Item	Specifications	
General part number	SXO-4075CM*1	SXO-4075CMV*1
Frequency range	10.000 MHz to 40.000 MHz	
Initial frequency tolerance at +25°C ±2°C	±1.5 ppm max.*2	±1.5 ppm max. (V _{CON} = 1/2 V _{DD})*2,3
TCXO or VC-TCXO	TCXO	VC-TCXO
Frequency Stability	Temperature range	DD/kjj: ±2 ppm max. over -30°C to +75°C (referred to +25°C)*3 CC/kll: ±1.5 ppm max. over -30°C to +85°C (referred to +25°C)*3 BB/klj: ±1 ppm max. over -30°C to +85°C (referred to +25°C)*3 AA/klj: ±0.5 ppm max. over -30°C to +85°C (referred to +25°C)*3
	Input voltage change	±0.2 ppm max. at V _{DD} ±5% DC
	Output load change	±0.2 ppm max. at 10 kΩ ±10% with 10 pF ±10%
	Aging	±1 ppm max. per year at +25°C ±3°C
	Operating Conditions	-30°C to +75°C (S1 = Standard 1) -30°C to +85°C (S2 = Standard 2) -40°C to +85°C (W = Option, frequency dependent)
Supply voltage (V _{DD})	D = +1.8V, F = +2.5V, H = +2.8V, J = +3.0V, K = +3.3V DC ±5%	
	Control voltage (Pin#1)	n.a. / 0.9V ±0.8V (V _{DD} = +1.8V) 1/2 V _{DD} ±1V (V _{DD} = +2.5V to +3.3V)
Absolute Max. Ratings	Supply voltage	-0.6V to +4.6V DC
	Vcontrol voltage (Vcon)	n.a. / -0.6V to V _{DD} +0.6V DC
	Storage temperature	-40°C to +85°C
Input current	4 mA max. (10.000 MHz to 30.000 MHz) 6 mA max. (30.000 MHz to 40.000 MHz)	
Output (-40°C to +85°C)	Symmetry	40% to 50% at 1/2 V _{DD} level
	Rise and fall times	10 ns max. (10% V _{DD} to 90% V _{DD} level)
	"0" level	V _{OL} : 10% V _{DD} max.
	"1" level	V _{OH} : 90% V _{DD} min.
	Load	15 pF max. (CMOS)
Frequency Adjustment	Voltage control	n.a. / ±8 ppm to ±13 ppm (V _{DD} = +1.8V) ±9 ppm to ±15 ppm (V _{DD} = +2.5V to +3.3V)
Frequency Slope	n.a.	Positive
Disable delay time	n.a.	200 ns max.
Enable delay time	n.a.	10 ms max.
Start-up time	10 ms max.	
SSB phase noise (26.000 MHz)	-133 dBc / Hz, Typical at 1 kHz offset	
Short-term frequency stability	±1 ppb max. (Allan variance Tau = 0.1 sec.)	
Reflow condition	+240°C ±10°C for 10 seconds +170°C ±10°C for 1 to 2 minutes (preheating)	
Standard frequencies (MHz)	10.000, 13.000, 16.367667, 16.368, 16.369, 16.800, 19.200, 20.000, 23.104, 24.5536, 25.000, 26.000, 38.400	
Optional Operating Temperature*4	Low limit / Symbol	-10°C / g -15°C / h -20°C / i -25°C / j -30°C / k -35°C / l -40°C / m
	High limit / Symbol	+55°C / ff +60°C / gg +65°C / hh +70°C / ii +75°C / jj +80°C / kk +85°C / ll

(*1) Final part number to be assigned with package type, TCXO or VC-TCXO, frequency stability, input voltage, operating temperature and frequency.
e.g. SXO-4075CMV-CC/klj-K-S2-19.2MHz

(*2) Referred to nominal frequency before reflow soldering.

(*3) At Vcon = 1/2 V_{DD} DC for SXO-4075CMV.

(*4) Select "low limit" and "high limit" for new operating temperature combination from the lists.

PACKAGE DATA

Item	Package	SXO-4075CM
Cover		Epoxy Resin
Base		Glass Epoxy
Sealing		Seam (Built-in crystal)
Terminal		Copper (metallized)
Terminal plating		Gold / Nickel (surface) / (under)
RoHS		Compliant (Pb-free)

TAPE SPECIFICATIONS

