

Quartz

Surface Mount

ADXSM-280 Series (281)

OSC

VCXO
VCO

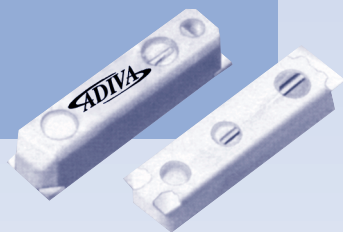
TCXO
VCTCXO

FLTR

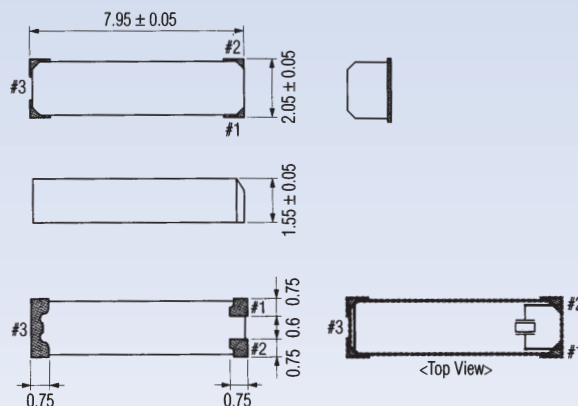
RES

IND

ADXSM-281



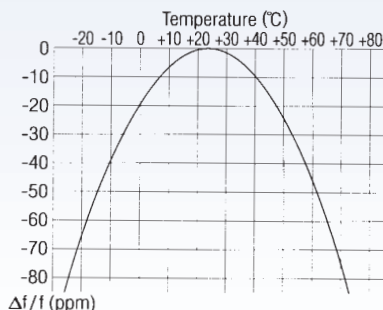
UNIT DIMENSION (unit: mm)



SOLDERING PATTERN

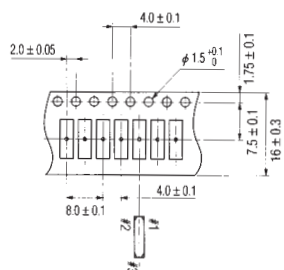


X-CUT



TYPICAL TEMPERATURE CHARACTERISTICS

TAPE SPECIFICATIONS



9000pcs. per reel (330mm dia.)

PACKAGE DATA

Item / Package	ADXSM-281-32.768K	ADXSM-281-75.000K
OUTER PACKAGE	Silicon Polymer	Silicon Polymer
SEALING	Press-fit (1.5 x 5mm built-in)	Press-fit (1.5 x 5mm built-in)
TERMINAL PLATING	Gold	Gold

STANDARD SPECIFICATIONS

Package Type		ADXSM-281	
Nominal Frequency	F	32.768 KHz	75.000 KHz
Frequency Tolerance at +25°C	# f/F	± 10 ppm	± 15 ppm ± 20 ppm ± 30 ppm
Load Capacitance	CL	7.0 pF or 12.5 pF	
Equivalent Series Resistance	Rs	55 k Ω max.	
Drive Level	P	1.0 μ W max.	
Quality Factor	Q	70000, Typical	
Turnover Temperature	Tt	+25°C ± 5 °C	
Temperature Coefficient	β	-0.035ppm/°C, Typical	
Shunt Capacitance	Co	0.95pF, Typical	
Motional Capacitance	C1	0.0025pF, Typical	
Capacitance Ratio	γ	380, Typical	
Aging (for first year)	# f/F	± 3 ppm max. at +25°C ± 3 °C	
Insulation Resistance	IR	500 M Ω min. at 100V DC ± 15 V	
Cut		X-Cut	
Operating Temperature Range	To	-20°C to +70°C	
Storage Temperature Range	Ts	-40°C to +125°C	
Shock	# f/F	± 5 ppm max.	
Vibration	# f/F	± 5 ppm max.	
Reflow Soldering Condition		20 seconds max. at +230°C max. (2 times)	

CRYSTALS

Quartz Part Numbering Guide

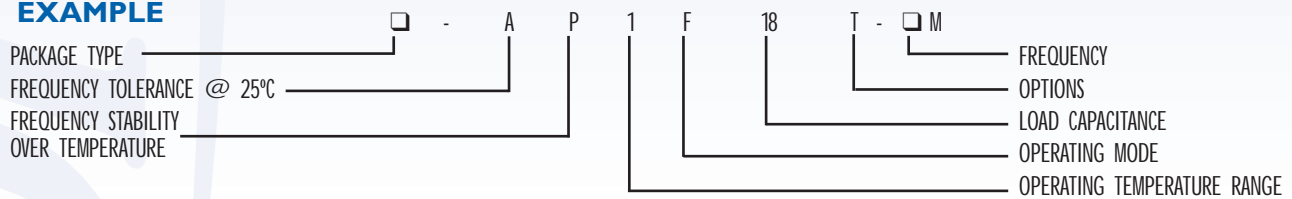
Surface Mount

ADXSM, ADX49SM, ADX49SSM1/SSM2, ADX49SMP/SMP1 Series



Package Type	ADXSM-351 pg10 ADXSM-364 pg11 ADXSM-365 pg12 ADXSM-463 pg16 ADXSM-481 pg17 ADXSM-491 pg20 ADXSM-492 pg20	ADXSM-571 pg21 ADXSM-572 pg22 ADXSM-581 pg23 ADXSM-5111A pg24 ADXSM-6122A pg24 ADXSM-6121A pg25 ADXSM-5122A pg25	ADXSM-5134AZ pg26 ADXSM-5136AZ pg26 ADXSM-5135AZ pg27 ADXSM-5137AZ pg27 ADXSM-5138AZ pg28 ADXSM-5121B pg29 ADXSM-5122B pg29	ADX49SM pg30 ADX49SSM pg30 ADX49SSM1 pg31 ADX49SSM2 pg31 ADX49SMP pg32 ADX49SMP1 pg32
Frequency Tolerance @ 25°C	±100ppm A ±50ppm B ±45ppm C	±40ppm D ±35ppm E ±30ppm F	±25ppm G ±20ppm H ±15ppm I	±10ppm J ±5ppm K
Frequency Stability Over Temperature	±100 ppm P ±50 ppm Q ±45 ppm R ±40 ppm S	±35 ppm T ±30 ppm U ±25 ppm V ±20 ppm W	±15 ppm X ±10 ppm Y ±7.5 ppm YY ±5 ppm Z	±4 ppm ZZ ±3 ppm ZY
Operating Temperature Range	0°C to +70°C 1 -10°C to +60°C 2 -20°C to +70°C 3 -40°C to +75°C 4	-40°C to +85°C 5 -40°C to +90°C 6 0°C to +55°C 7 -40°C to +125°C 8	0°C to +50°C 9 -10°C to +50°C 10 -10°C to +70°C 11 -30°C to +75°C 12	-30°C to +80°C 13 -350°C to +80°C 14
Operating Mode	Fundamental F 3rd Overtone 3	5th Overtone 5 7th Overtone 7	9th Overtone 9	
Load Capacitance	6 pF 6 10 pF 10 12 pF 12	15 pF 15 16 pF 16 18 pF 18	20 pF 20 22 pF 22 30 pF 30	32 pF 32 50 pF 50 Series S
Options	Bulk Blank Insulator Tab I	Tape & Reel T		
Frequency	MHz M	KHz K		

EXAMPLE



Package Type	ADXSM-281 pg9 ADXSM-371 pg13 ADXSM-391 pg14	ADXSM-411 pg15 ADXSM-412 pg15 ADXSM-481A pg18	ADXSM-481B pg19 ADXSM-482B pg19
Frequency Tolerance @ 25°C	±100ppm A ±50ppm B ±45ppm C ±40ppm D	±35ppm E ±30ppm F ±25ppm G ±20ppm H	±15ppm I ±10ppm J ±5ppm K
Load Capacitance	6 pF 6	7 pF 7	12.5 pF 12.5
Options	Bulk Blank Insulator Tab I	Tape & Reel T	
Frequency	MHz M	KHz K	

EXAMPLE

