

XTAL

CLK OSC

VCXO

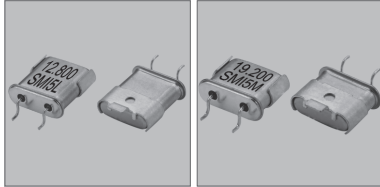
TCXO

OCXO

MCF

UM-1(MJ)

UM-5(MJ)

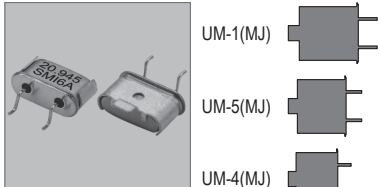


0.41 gm (wt.)

0.336 gm (wt.)

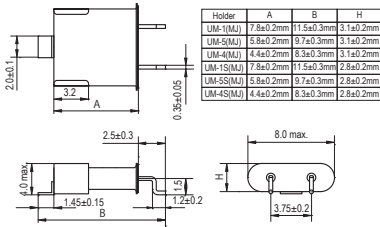
UM-4(MJ)

ACTUAL SIZE

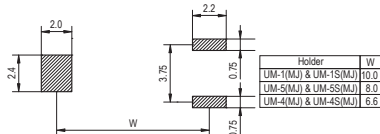


0.31 gm (wt.)

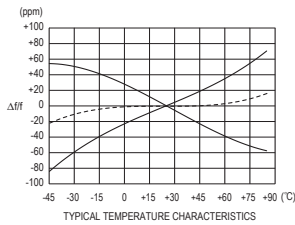
UM-1(MJ), UM-5(MJ), UM-4(MJ)  
UM-1S(MJ), UM-5S(MJ), UM-4S(MJ)



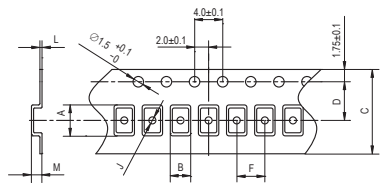
SOLDERING PATTERN



AT-CUT



TAPE SPECIFICATIONS



UM-1(MJ) & UM-1S(MJ)

A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
12.4	8.2	24.0	11.5	12.0	1.5	0.4	3.3	330	1000pcs

UM-5(MJ) & UM-5S(MJ)

A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
10.6	8.2	24.0	11.5	12.0	1.5	0.4	3.3	330	1000pcs

UM-4(MJ) & UM-4S(MJ)

A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
9.2	8.2	16.0	7.5	12.0	1.5	0.4	3.3	330	1000pcs

STANDARD SPECIFICATIONS

Item	Symbol	Specifications
Package type		UM-1(MJ), UM-1S(MJ), UM-4(MJ), UM-4S(MJ), UM-5(MJ), UM-5S(MJ)
Frequency range	F	6.000 MHz to 200.000 MHz (UM-1 & UM-1S) 10.000 MHz to 200.000 MHz (UM-5 & UM-5S) 20.000 MHz to 200.000 MHz (UM-4 & UM-4S)
Frequency tolerance (at +25°C ±3°C)	Δf/F	J : ±5 ppm Q : ±15 ppm O : ±10 ppm R : ±20 ppm
Temperature stability (referred to +25°C) Note : Contact for other temperature stabilities and operating temperature ranges.		TTiii : ±30 ppm over -20°C to +70°C RRiii : ±20 ppm over -20°C to +70°C QQiii : ±15 ppm over -20°C to +70°C OOiii : ±10 ppm over -20°C to +70°C
Load capacitance	CL	16 pF, Typical
Equivalent series resistance	ESR	

UM-1(MJ) & UM-1S(MJ)		3rd overtone		5th overtone	
6 to 10 MHz	10 to 60 MHz	24 to 60 MHz	60 to 180 MHz	80 to 120 MHz	120 to 200 MHz
40 Ω max.	25 Ω max.	60 Ω max.	40 Ω max.	80 Ω max.	70 Ω max.

UM-5(MJ) & UM-5S(MJ)		3rd overtone		5th overtone	
10 to 20 MHz	20 to 60 MHz	24 to 30 MHz	30 to 60 MHz	60 to 180 MHz	80 to 120 MHz
30 Ω max.	25 Ω max.	80 Ω max.	60 Ω max.	40 Ω max.	100 Ω max.

UM-4(MJ) & UM-4S(MJ)		3rd overtone		5th overtone	
20 to 60 MHz	60 to 90 MHz	90 to 180 MHz	100 to 200 MHz		
30 Ω max.	80 Ω max.	60 Ω max.	100 Ω max.		

Shunt capacitance	C0	7.0 pF max.
Drive level	P	1 mW max. (10 μW for testing)
Aging (for first year)	Δf/F	±3 ppm max. at +25°C ±3°C per year
Cut		AT-Cut

PART NUMBERING GUIDE

UM1(MJ) / 12.288M - 16 / Q / TTiii



Example

SMI Part No.	Package	Circuit Calibration Condition	Frequency	Frequency Tolerance	Temperature Stability
UM1(MJ)/12.2880M-16/Q/TTiii	UM1(MJ) = UM-1(MJ)	Parallel resonance CL = 16pF	12.288 MHz	Q = ±15 ppm	TTiii = ±30 ppm
UM5S(MJ)/10.0000M-12/R/OOiii	UM5S(MJ) = UM-5S(MJ)	Parallel resonance CL = 12pF	10.000 MHz	R = ±20 ppm	OOiii = ±10 ppm
UM4(MJ)/22.57920M-S/J/QQiii	UM4(MJ) = UM-4(MJ)	S = Series resonance	22.5792 MHz	J = ±5 ppm	QQiii = ±15 ppm

PACKAGE DATA

Item	Package	UM-1(MJ)/1S(MJ), UM-5(MJ)/5S(MJ) & UM-4(MJ)/4S(MJ)
Cover		Metal
Base		Metal
Sealing		Resistance
Metal clamp		C7521R-0
Metal clamp plating		Tin / Copper (surface) / (under)
Terminal lead		Alloy (FeNiCo)
Terminal lead plating		Gold
RoHS		Compliant (Pb-free)