

Data sheet

UM-4, UM-5, UM-1 SMD Gull Wing

Jacket Type Metal Welded Package

H x 7.8 x 3.5 mm

FEATURES

- SMD Gull Wing (Jacket type) metal welded package
- High resolution frequency tolerance is obtained
- Frequency range 10.0MHz - 200MHz
- Options for initial tolerance and temperature stability
- Height 8mm (UM-1), 6mm (UM-5), 4.3mm (UM-4)



Parameter	min.	typ.	max.	Unit	Condition
Frequency range	10.000		45.000	MHz	Fundamental mode
	35.000		200.000	MHz	Overtone mode (3rd., 5th)
Vibration mode	AT cut, fundamental, 3rd overtone , 5th overtone				
Frequency stability					
Initial tolerance @25°C		±30		ppm	See options
vs. operating temperature range		±30		ppm	See options
operating temperature range	-10		+60	°C	See options
Equivalent Series Resistance (ESR)	See table 1				
Load Capacitance (CL)	16pF, 18pF, 20pF or specify (see options)				
Shunt Capacitance (Co)			5.0	pF	
Drive Level			300	µW	
Aging			±2	ppm	At 25°C, first year
Insulation Resistance	500			MΩ	@ 100Vdc
Enclosure (see drawing) (LxWxH)	H x 7.8 x 3.5 mm			mm	SMD Gull Wing (Metal Jacket type)
Soldering Condition	260°C, 10 sec x 2 max.				
Packing	1,000 pcs./reel				

Table 1 : Standard ESR

Frequency	Mode	ESR
10.0 ~ 11.9MHz	Fundamental	50Ω max.
12.0 ~ 14.9MHz	Fundamental	30Ω max.
15.0 ~ 45.0MHz	Fundamental	25Ω max.

Frequency	Mode	ESR
35.0 ~ 44.9MHz	3rd overtone	50Ω max.
45.0 ~ 54.9MHz	3rd overtone	45Ω max.
55.0 ~ 200.0MHz	3rd overtone	40Ω max.

Ordering Code:

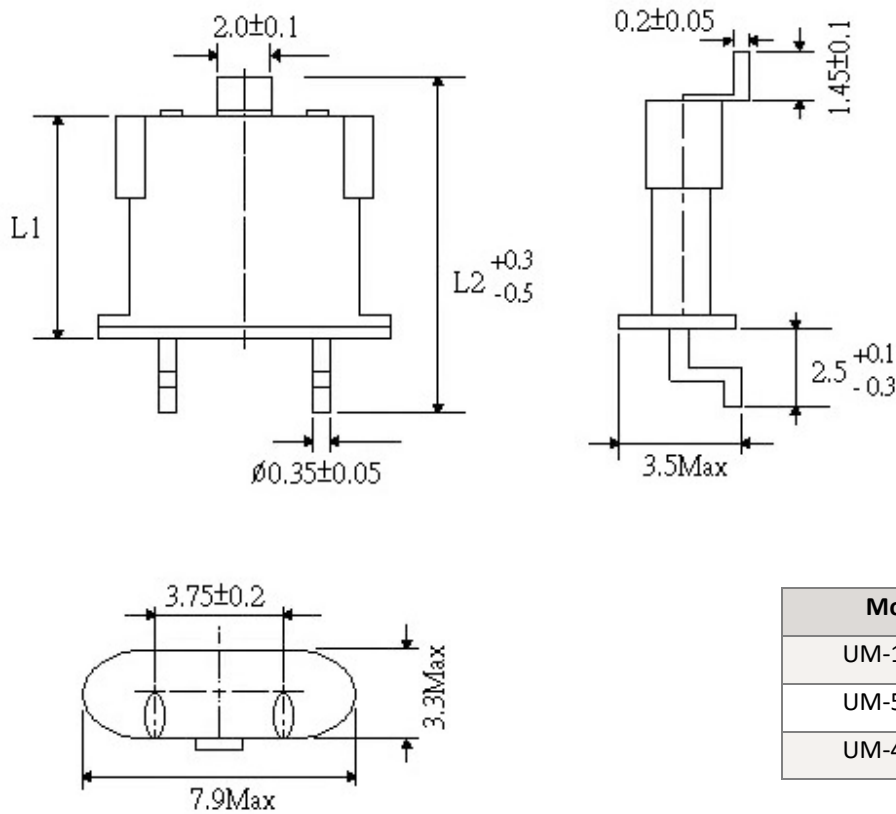
Freq. Tolerance @ 25°C	Freq. Stability	Operating Temp. range	Load Capacitance	Mode	Frequency in MHz	ESR if other than STD
5 = ± 10ppm	5 = ± 10ppm	D = -10 / +60°C	Please specify CL	F = Fundamental	Specify the	Specify a value
10 = ± 10ppm	10 = ± 10ppm	E = 0° / +70°C	in pF or S for series	3 = 3rd overtone	frequency in MHz	in Ω
15 = ± 15ppm	15 = ± 15ppm	F = -20° / +70°C		5 = 5th overtone		
20 = ± 20ppm	20 = ± 20ppm	G = -30° / +75°C				
25 = ± 25ppm	25 = ± 25ppm	H = -30° / +85°C				
30 = ± 30ppm	30 = ± 30ppm	K = -40° / +85°C				
50 = ± 50ppm	50 = ± 50ppm					

Example: UM-5 SMD-10-20-D-S-F-22.300MHz

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UM-4, UM-5, UM-1 SMD Gull Wing Jacket Type Metal Welded Package

Outline Dimensions:



Model	L1 (mm)	L2 (mm)
UM-1 SMD	8.0	11.9
UM-5 SMD	6.0	9.9
UM-4 SMD	4.3	7.2

Environmental conditions

Test	IEC 60068 Part ...	IEC 60679-1 clause ...	Test conditions (IEC)
Sealing tests (if applicable)	2-17	5.6.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability	2-20	5.6.3	Test Ta Method 1
Resistance to soldering heat	2-58		Test Td ₁ Method 2 Test Td ₂ Method 2
Shock*	2-27	5.6.8	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Vibration, sinusoidal*	2-6	5.6.7.1	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g
Vibration random *	2-64	5.6.7.3	Test Fdb
Endurance tests			
- ageing		5.7.1	30 days @ 85°C, OCXO @25°C
- extended aging		5.7.2	1000h, 2000h, 8000h @85°C

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