

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					

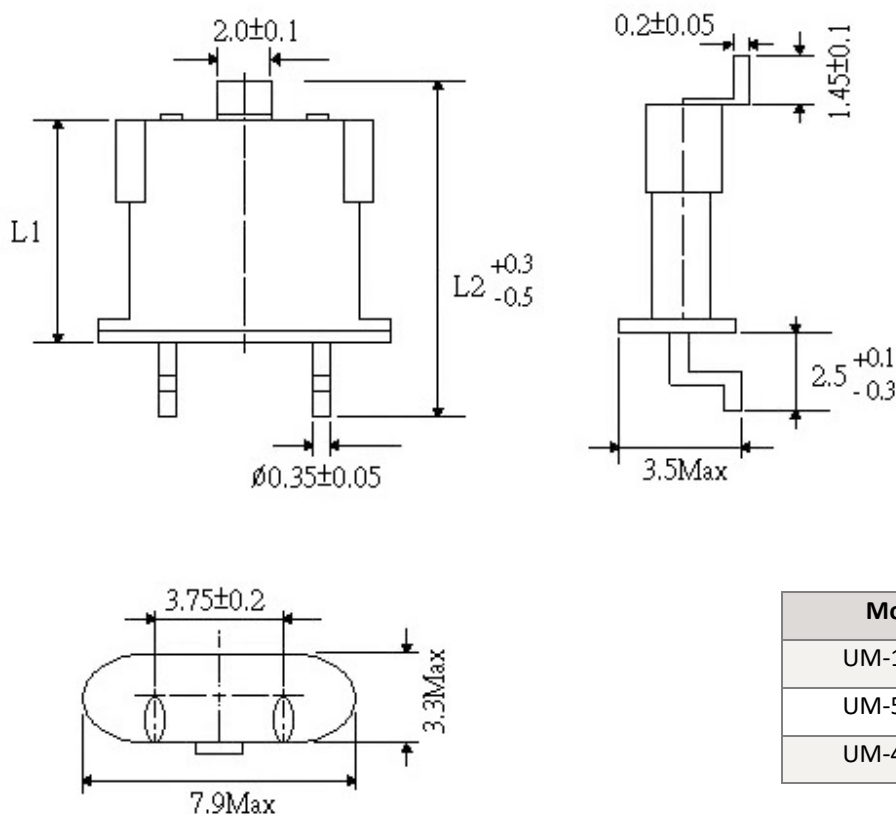
Example: UM-5 SMD-10-20-D-S-F-22.300MHz

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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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