

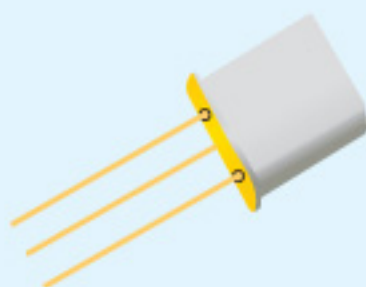
CRYSTAL UNIT



HUAFENG
CRYSTAL

MCF 21/45 MHz Series

- Monolithic crystal filter
- Compactness and light weight
- Stable temperature characteristics
- Outstanding vibration and shock resistant characteristics
- Amount of attenuation is high in the attenuating range



ELECTRICAL SPECIFICATIONS

Nominal frequency		21.400 / 21.450		21.600 / 21.700 / 26.050		/ 29.250 MHz			
Model	NO of pole	Pass Bandwidth (dB) [kHz]	Stop Bandwidth (dB) [kHz]	Ripple (dB)	Insertion Loss (dB)	Guaranteed Attenuation (dB)	Terminating Impedance (kΩ//pF)	Package	
21M7.5A	2	3 ±3.75	18 ±14	0.5	2.0	20	0.85//5	UM1-3	
21M7.5B	4	3 ±3.75	40 ±14	1.0	2.5	40	0.85//5	UM1-3×2	
21M7.5C	6	3 ±3.75	60 ±12.5	2.0	3.0	60	0.85//5	C2	
21M7.5D	8	3 ±3.75	80 ±12.5	2.0	4.0	90	0.85//5	D2	
21M12A	2	3 ±6	18 ±23	0.5	2.0	20	1.2//2.5	UM1-3	
21M12B	4	3 ±6	40 ±20	1.0	2.5	40	1.2//2.5	UM1-3×2	
21M12C	6	3 ±6	60 ±20	2.0	3.0	65	1.6//2.0	C2	
21M12D	8	3 ±6	80 ±20	2.0	4.0	90	1.2//2.5	D2	
21M15A	2	3 ±7.5	18 ±25	0.5	1.5	20	1.5//2.0	UM1-3	
21M15B	4	3 ±7.5	40 ±25	1.0	2.0	40	1.5//2.0	UM1-3×2	
21M15C	6	3 ±7.5	60 ±25	2.0	2.5	65	1.5//2.0	C2	
21M15D	8	3 ±7.5	80 ±25	2.0	3.0	90	1.5//2.0	D2	
21M20A	2	3 ±10	18 ±34	0.5	1.5	20	2.2//1	UM1-3	
21M20B	4	3 ±10	40 ±34	1.0	2.0	40	2.2//1	UM1-3×2	
21M30A	2	3 ±15	15 ±50	0.5	1.5	20	3.0//0	UM1-3	
21M30B	4	3 ±15	30 ±45	1.0	2.0	40	3.0//0	UM1-3×2	
21N15A	2	3 ±7.5	18 ±25	0.5	2.0	20	1.5//2.0	UM1-3	
21N15A1	2	3 ±7.5	18 ±25	0.5	2.0	20	1.6//1.0	UM5-3	
21N20A	2	3 ±10	13 ±43	1.0	2.0	20	1.5//2.0	UM5-3	
26M17A	2	3 ±8.5	14 ±25	0.5	2.5	12	1.1//1.5	UM5-3	
29N20A	2	3 ±10	10 ±24.5	0.5	2.0	12	1.6//1.5	UM5-3	

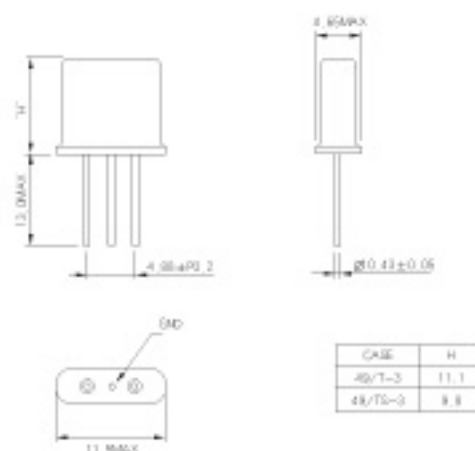
Nominal frequency

45.000 / 44.9625 / 45.0375 MHz

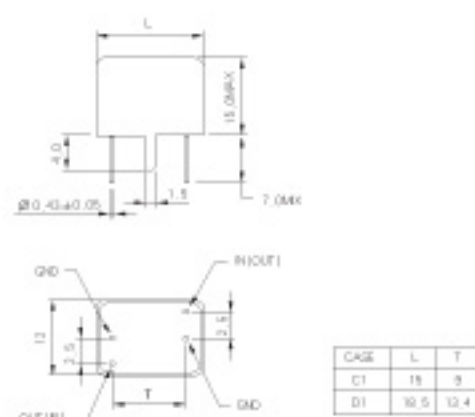
45M15A	2	3 ±7.5	18 ±28	1.0	2.0	40	3.0// -1.5	UM1-3	
45M15B	4	3 ±7.5	40 ±30	1.0	3.0	70	3.0// -1	UM1-3×2	
45M20B	4	3 ±10	30 ±35	1.0	3.0	70	5.0// -1.0	UM1-3×2	
45M30A	2	3 ±15	15 ±45	1.0	2.0	40	8.0// -1.5	UM1-3	
45M30B	4	3 ±15	30 ±50	1.0	3.0	70	8.0// -1.5	UM1-3×2	
45F15A	2	3 ±7.5	15 ±25	1.0	2.0	40	0.65//5	UM1-3	
45F15B	4	3 ±7.5	30 ±25	1.5	3.0	70	0.65//3	UM1-3×2	
45F20B	4	3 ±10	30 ±35	1.0	3.0	70	0.7//1.5	UM1-3	
45F30A	2	3 ±15	18 ±35	1.0	2.0	40	1.2//1.5	UM1-3×2	
45F30B	4	3 ±15	30 ±50	1.5	3.0	70	1.2//1.0	UM1-3×2	

MECHANICAL DIMENSIONS

HC-49 / T-3, HC-49 / TS-3



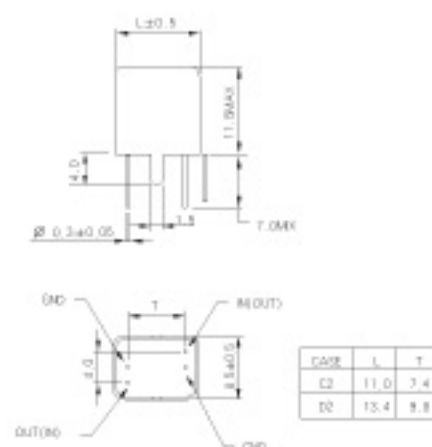
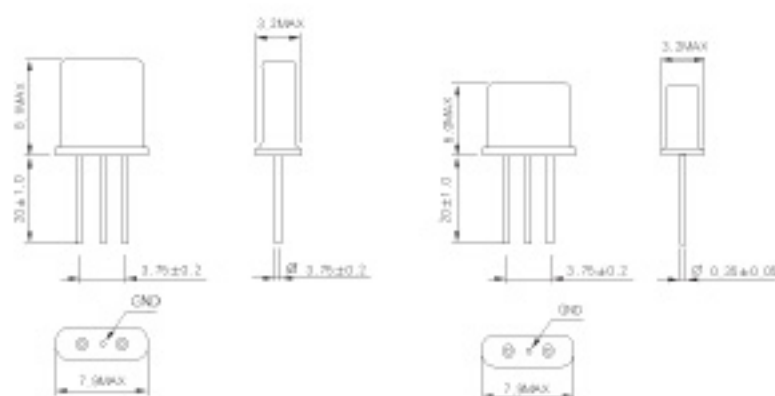
C1, D1



UM1-3

UM5-3

C2, D2



ENVIRONMENTAL / MECHANICAL SPECIFICATIONS

PARAMETER	SPECIFICATIONS
Seal Integrity	Bubble test in Perfluorocarbon at +1 25°C ± 5°C for 60 seconds minimum.
Solderability	Sn63 Solder dip at +230°C ± 5°C 5 seconds/95% coverage.
Shock	Random drop on hard wooden plate 3 times from a height of 50cm.
Vibration	Frequency with an amplitude of 1.5mm sweeping between 10Hz to 55Hz within 1 minute (approximately) for 2 hours minimum on each axis (X, Y and Z) for a total of 6 hours.