X4DF4M-2070/A100-MPX
Space Qualified Miniature Filter

Lorch Microwave offers micro-miniature bandpass filters which are designed, built, and tested to Level 1 Space Application criteria. A leading manufacturer of RF and Microwave filters for more than four decades, Lorch Microwave provides solutions for the most demanding applications to military and commercial markets worldwide.

SPECIFICATIONS

Center Frequency:	2070 MHz
Passband 2 dB Bandwidth:	100 MHz
Insertion Loss:	1.3 dB at 2070 MHz
VSWR Input:	1.5:1
VSWR Output:	1.5:1
Amplitude Ripple:	0.1 dB max 2020-2120 MHz
Stopband Rejection:	20 dB min at 2200 MHz 40 dB min at 2550 MHz
Operating Temperature:	-40°C to +125°C
Package Size:	1.1" L x .55" W x .30" H
Stainless Steel Package:	Nickel Plated Finish

QUALIFICATION TEST REQUIREMENTS FOR FILTERS 1

Samples shall be selected from parts that have passed the screening requirements (see following page)

Inspection Test	Test Methods and Procedures **MIL-PRF-28861** Paragraph	Quantity (Accept Number)		
		Level 1	Level 2	Level 3
		SCD	SCD, HI-REL or Commercial	
Group 1		4(0)	4(0)	Not Required
Resistance to Solvents	3.21, 4.6.15	X	X	
Resistance for Soldering Heat	3.25, 4.6.20	X	X	
Solderability	3.31, 4.6.25	X	X	
Thermal Strength	3.29, 4.6.23	X	X	
Group 2		5(0)	5(0) OR 10(1)	
Shock (Specified Pulse)	3.28, 4.6.22	X (1,500 Gs)	X (100 Gs)	
Vibration (High Frequency)	3.22, 4.6.16	X	X	
Random Vibration	3.23, 4.6.17	X		
Moisture Resistance	3.30, 4.6.24	X	X	
Seal (When Applicable)	3.15, 4.6.9	X	X	
Destructive Physical Analysis	3.27, 4.6.21	X	X	
Group 3		22(0)	10(0)	
Life	3.32, 4.6.26	X	X	

1725 North Salisbury Blvd. · PO Box 2828 · Salisbury, Maryland 21801
800.780.2169 · 410.860.5100 · Fax 410.860.1949 · lorchsales@lorch.com · www.lorch.com

smiths
bringing technology to life

X4DF4M-2070/A100-MPX
Space Qualified Miniature Filter

SCREENING REQUIREMENTS FOR FILTERS

Inspection/Test	Test Methods, Conditions, and Requirements Reference **MIL-PRF-28861**	Level 1	Level 2			Level 3
		SCD	SCD	MIL-PRF-15733	HI-REL or Commercial	HI-REL or Commercial
1. Visual Inspection	Elements and subassemblies in accordance with paragraph 4.6.1.2.	X				
2. External Visual 1/	Dimensions, marking, workmanship.	X	X		X	X
3. Thermal Shock	MIL-STD-202, Method 107 Condition A except step 3 shall be 125°C.	X	X	X	X	
4. Voltage Conditioning (Burn-In) Duration (Hours)	MIL-STD-202, Method 108, 125°±3°C. 2 x rated voltage for DC rated. 1.2 x rated AC voltage for max, rated frequency for AC, AC/DC rated.	X 2/, 3/ 240	X 160	X 96	X 160	X 48
5. Insulation Resistance or DC Leakage Current 4/	MIL-STD-202, Method 302, rated DC voltage applied for 2 minutes max., charging current of 50 mA max.	X	X	X	X	X
6. Capacitance to Ground	MIL-STD-202, Method 302, 1.0±.2V RMS. 1 MHz ±100 KHz for capacitors ≤100 pF. 1 KHz ±100 Hz for capacitors ≥100 pF.	X	X	X	X	X
7. Dissipation Factor	Frequency and voltage specified in 6) above. Accuracy shall be ±2 percent.	X	X	X	X	
8. Insertion Loss	MIL-STD-220 and paragraph 4.6.5.	X	X	X	X 4/	
9. Voltage Drop	AC and DC, paragraph 4.6.6.	X	X		X	
10. Radiographic Inspection	MIL-STD-202, Method 209, and paragraph 4.6.8.	X				
11. Seal Test (Hermetic Types Only) Gross Leak Fine Leak	MIL-STD-202, Method 112. Condition A or B. Condition C.	 X X	X		X	

Notes:
1/ Pure Tin plating is prohibited as a final finish on EEE parts.
2/ Grade 1 filters shall be torqued in place and insulation resistance measured at 125°C before removing filter from plate.
3/ Polarity shall be reversed after first 24 to 72 hours. Refer to MIL-PRF-28861 paragraph 4.6.2.2.2 and Figure 1 for test circuit.
4/ Shall be measured within 1 hour after voltage conditioning.