

NUF2070MN

2 Line Audio EMI Filter with ESD Protection

NUF2070MN is a 2 line LC EMI filter array designed for audio applications. It offers greater than -22.5 dB attenuation at frequencies from 800 MHz to 5.0 GHz. This device also offers ESD protection—clamping transients from static discharges and ESD protection is provided across all capacitors.

Features

- Provides EMI Filtering and ESD Protection
- Integration of 10 Discretes
- Compliance with IEC61000-4-2 (Level 4) 10 kV (Contact)
- DFN8, 2x2 mm Package
- Moisture Sensitivity Level 1
- ESD Ratings: Machine Model = C
Human Body Model = 3B
- Excellent Line Efficiency with Low Line Resistance $< 3.5 \Omega$
- This is a Pb-Free Device*

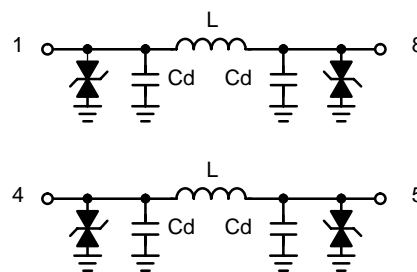
Applications

- Wireless Phones
- MP3s
- PDAs
- Digital Cameras
- Portable DVDs

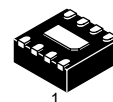


ON Semiconductor®

<http://onsemi.com>

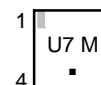


(Top View)

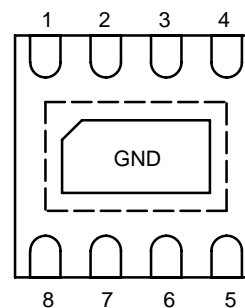


**DFN8
CASE 506AA
PLASTIC**

MARKING DIAGRAM



- U7 = Specific Device Code
- M = Date Code
- = Pb-Free Package



(Bottom View)

ORDERING INFORMATION

Device	Package	Shipping†
NUF2070MNT1G	DFN8 (Pb-Free)	3000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

NUF2070MN

MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
ESD Discharge IEC61000-4-2 Contact Discharge	V_{PP}	10	kV
Steady-State Power per Resistor	P_R	180	mW
Steady-State Power per Package	P_T	360	mW
Operating Temperature Range	T_{OP}	-40 to 85	°C
Storage Temperature Range	T_{stg}	-55 to 150	°C
Maximum Lead Temperature for Soldering Purposes (1.8 in from case for 10 s)	T_L	260	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Maximum Reverse Working Voltage	$I_Z = 10 \mu\text{A}$	V_{RWM}	-	-	12	V
Breakdown Voltage	$I_R = 1.0 \text{ mA}$	V_{BR}	13.7	15.7	17.7	V
Leakage Current	$V_{RWM} = 12 \text{ V}$	I_R	-	1.0	100	nA
Inductance		L	-	10	-	nH
Series Resistance	$I_F = 50 \text{ mA}$	R_S	-	2.4	3.5	Ω
Capacitance (Note 1, 3)		C_d	-	64	-	pF
Cut-Off Frequency (Note 2)	Above this frequency, appreciable attenuation occurs	f_{3dB}	-	50	-	MHz

1. Measured at 25°C , $V_R = 0 \text{ V}$, $f = 1.0 \text{ MHz}$.
2. 50Ω source and 50Ω load termination.
3. Total line capacitance is 2 times the diode capacitance (C_d).

NUF2070MN

TYPICAL PERFORMANCE CURVES

($T_A = 25^\circ\text{C}$ unless otherwise specified)

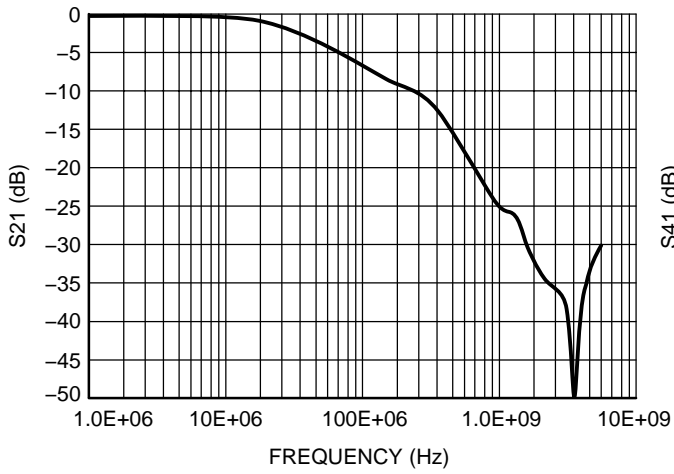


Figure 1. Insertion Loss Characteristics

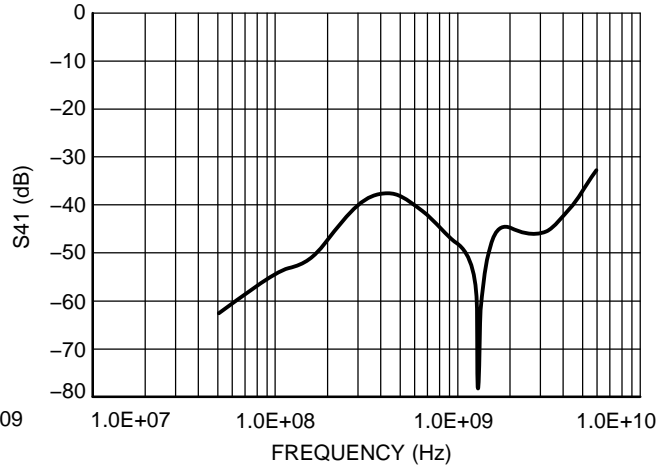


Figure 2. Analog Cross Talk

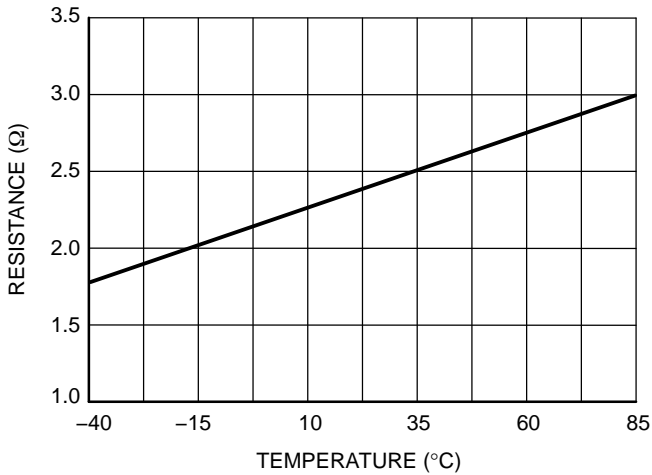


Figure 3. Typical Resistance over Temperature

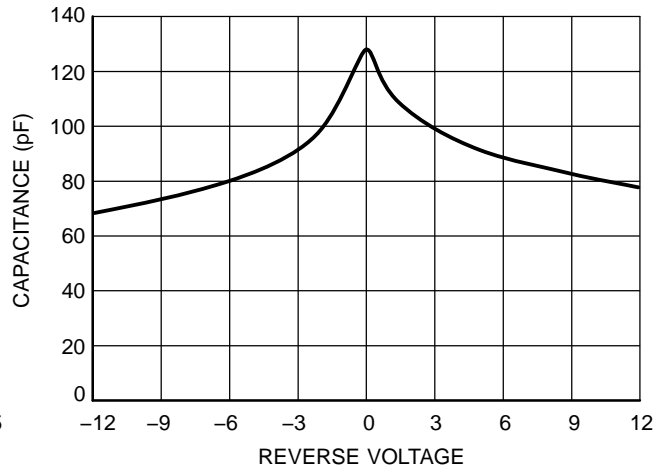


Figure 4. Typical Line Capacitance vs. Reverse Voltage

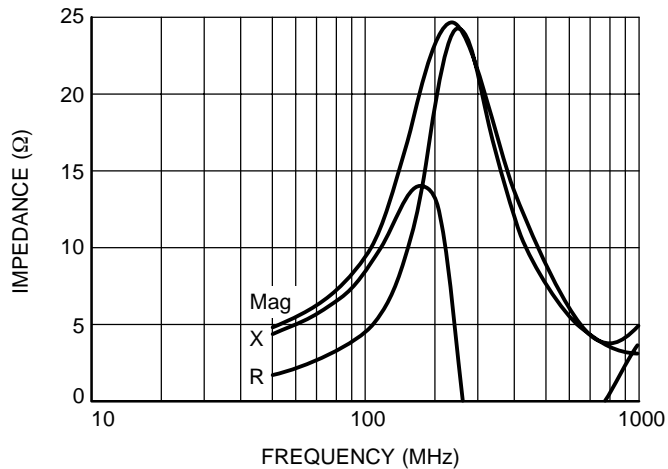


Figure 5. Typical Impedance vs. Frequency

ON Semiconductor and  are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. "Typical" parameters which may be provided in ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold ON Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ON Semiconductor was negligent regarding the design or manufacture of the part. ON Semiconductor is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Email Requests to: orderlit@onsemi.com

ON Semiconductor Website: www.onsemi.com

TECHNICAL SUPPORT

North American Technical Support:
Voice Mail: 1 800-282-9855 Toll Free USA/Canada
Phone: 011 421 33 790 2910

Europe, Middle East and Africa Technical Support:

Phone: 00421 33 790 2910

For additional information, please contact your local Sales Representative