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 Ω
- This is a Pb−Free Device*

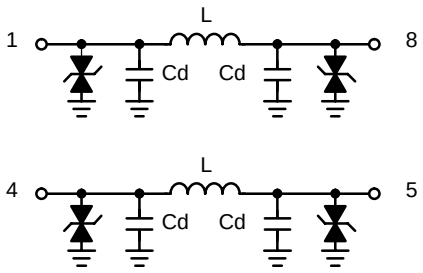
Applications

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

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

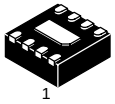
ON Semiconductor®

http://onsemi.com

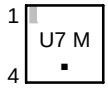


(Top View)

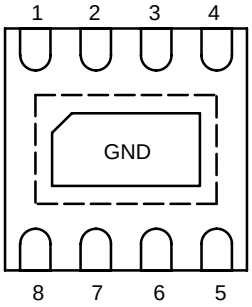
MARKING DIAGRAM



DFN8
CASE 506AA
PLASTIC



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.

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°C unless otherwise noted)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Maximum Reverse Working Voltage	I_Z = 10 μA	V_{RWM}	−	−	12	V
Breakdown Voltage	I_R = 1.0 mA	V_{BR}	13.7	15.7	17.7	V
Leakage Current	V_{RWM} = 12 V	I_R	−	1.0	100	nA
Inductance		$_L$	−	10	−	nH
Series Resistance	I_F = 50 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 V, f = 1.0 MHz.
2. 50 Ω source and 50 Ω load termination.
3. Total line capacitance is 2 times the diode capacitance (C_d).

TYPICAL PERFORMANCE CURVES

(T_A = 25°C unless otherwise specified)

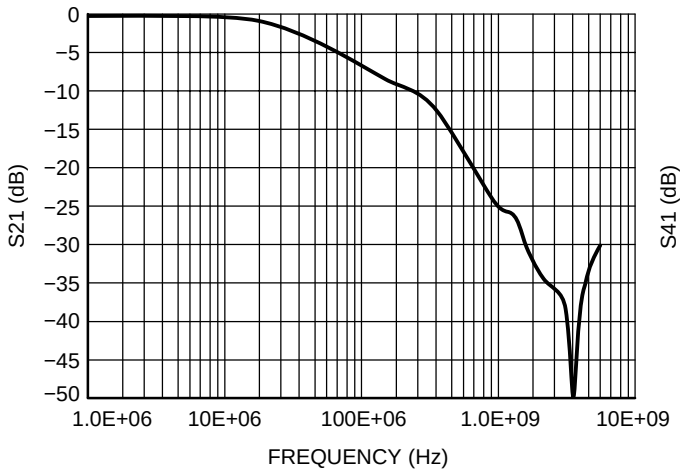


Figure 1. Insertion Loss Characteristics

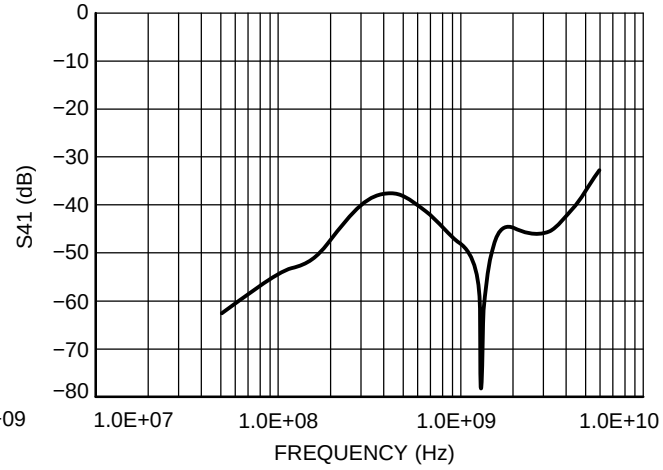


Figure 2. Analog Cross Talk

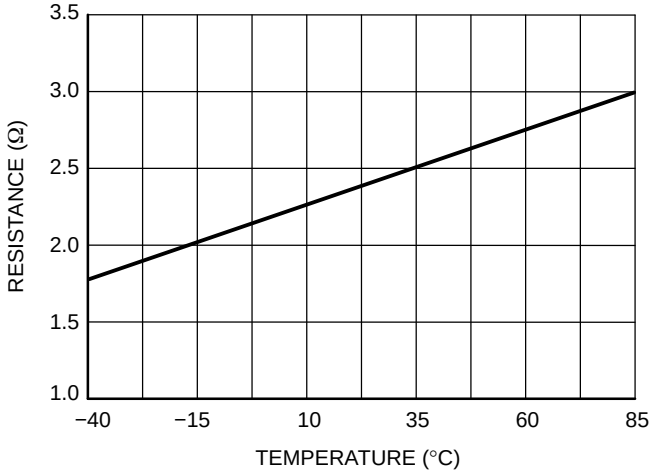


Figure 3. Typical Resistance over Temperature

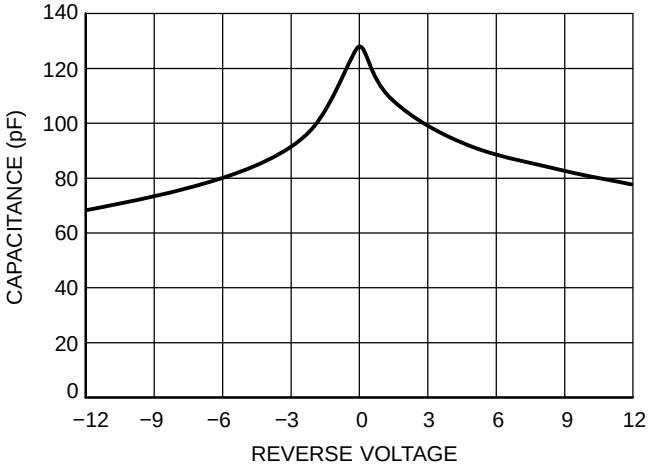


Figure 4. Typical Line Capacitance vs. Reverse Voltage

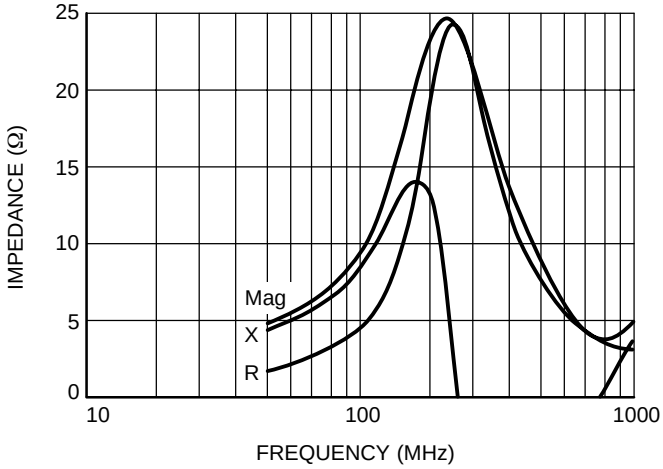


Figure 5. Typical Impedance vs. Frequency

ADDITIONAL INFORMATION

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