

NUF4211MN

Low Capacitance 4 Line EMI Filter with ESD Protection

This device is a 4 line EMI filter array for wireless applications. Greater than -20 dB attenuation is obtained at frequencies from 800 MHz to 3.0 GHz. It also offers ESD protection—clamping transients from static discharges. ESD protection is provided across all capacitors.

Features

- EMI Filtering and ESD Protection
- Integration of 20 Discrete Components
- Compliance with IEC61000-4-2 (Level 4)
>8 kV (Contact)
- DFN Package, 2 x 2 mm
- Moisture Sensitivity Level 1
- ESD Ratings: Machine Model = C
Human Body Model = 3B
- This is a Pb-Free Device*

Benefits

- Reduces EMI/RFI Emissions on a Data Line
- Integrated Solution Offers Cost and Space Savings
- Reduces Parasitic Inductances Which Offer a More “Ideal” Low Pass Filter Response
- Integrated Solution Improves System Reliability

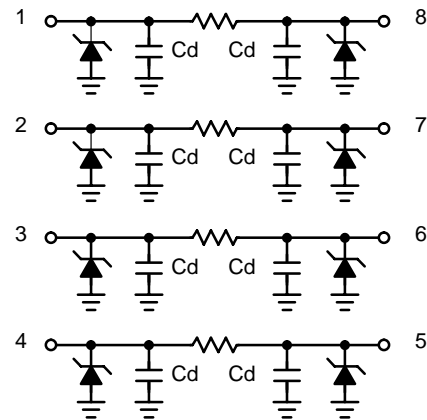
Applications

- EMI Filtering and ESD Protection for Data Lines
- Wireless Phones
- Handheld Products
- Notebook Computers
- LCD Displays

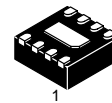


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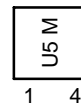


(Top View)

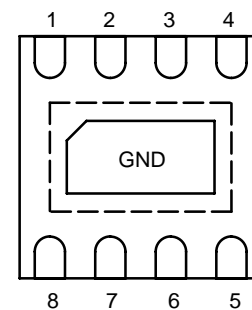


DFN8
CASE 506AA
PLASTIC

MARKING DIAGRAM



U5 = Specific Device Code
M = Date Code



(Bottom View)

ORDERING INFORMATION

Device	Package	Shipping†
NUF4211MNT1G	DFN8 (Pb-Free)	3000 / Tape & Reel

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

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

NUF4211MN

MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
ESD Discharge IEC61000-4-2 Contact Discharge Machine Model Human Body Model	V_{PP}	8.0	kV
		0.4	
		8.0	
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 seconds)	T_L	260	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Maximum Reverse Working Voltage	V_{RWM}				5.0	V
Breakdown Voltage	V_{BR}	$I_R = 1.0 \text{ mA}$	6.0	7.0	8.0	V
Leakage Current	I_R	$V_{RWM} = 3.3 \text{ V}$			100	nA
Resistance	R_A	$I_R = 10 \text{ mA}$	85	100	115	Ω
Capacitance (Notes 1 and 2)	Cd	$V_R = 2.5 \text{ V}$, $f = 1.0 \text{ MHz}$	-	8.5	11	pF
Cut-Off Frequency (Note 3)	f_{3dB}	Above this frequency, appreciable attenuation occurs		250		MHz

1. Measured at 25°C .
2. Total Line Capacitance is two times the Diode Capacitance (Cd).
3. 50Ω source and 50Ω load termination.

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

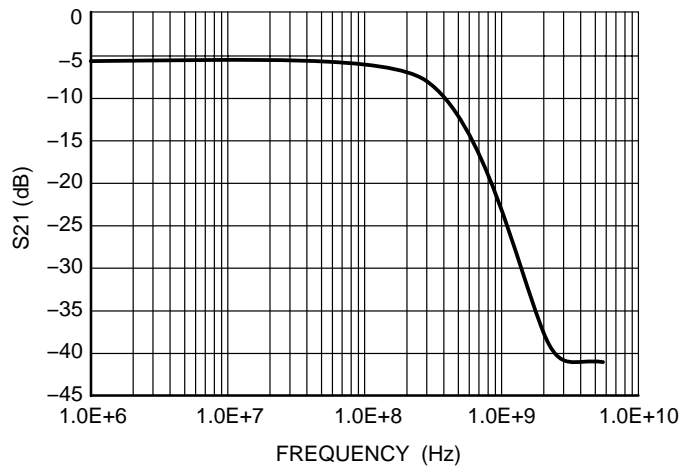


Figure 1. Insertion Loss Characteristic

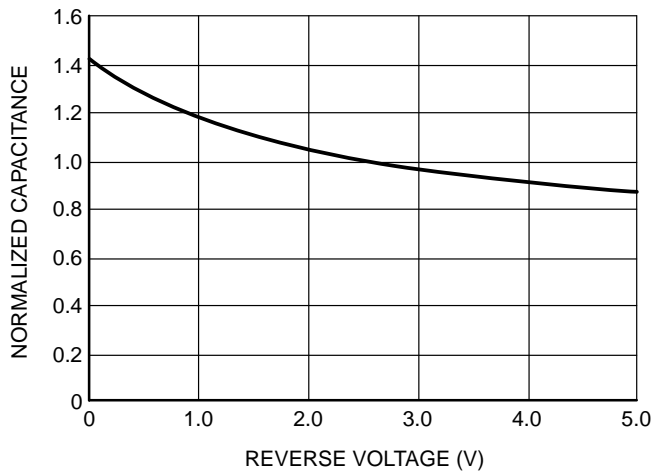


Figure 2. Typical Capacitance

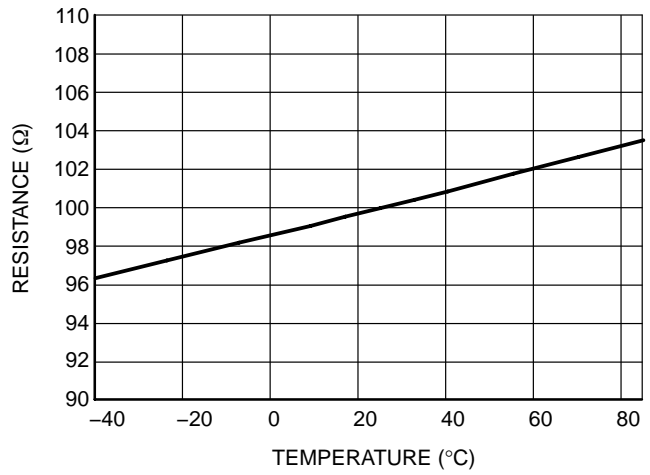
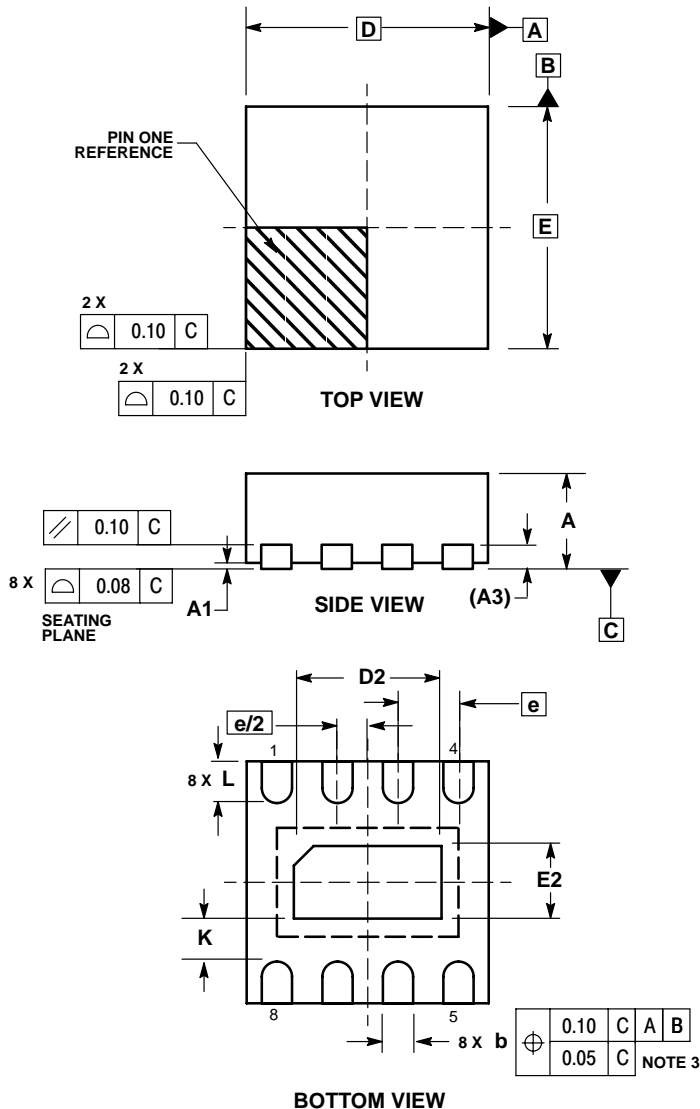


Figure 3. Typical Resistance over Temperature

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PACKAGE DIMENSIONS

DFN8
CASE 506AA-01
ISSUE C



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994 .
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.25 AND 0.30 MM FROM TERMINAL.
4. COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

DIM	MILLIMETERS	
	MIN	MAX
A	0.80	1.00
A1	0.00	0.05
A3	0.20	REF
b	0.20	0.30
D	2.00 BSC	
D2	1.10	1.30
E	2.00 BSC	
E2	0.70	0.90
e	0.50 BSC	
K	0.20	---
L	0.25	0.35

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