NUF2114

2 Line Audio EMI Filter with ESD Protection

This device is a 2 line audio EMI filter array designed for speaker applications. It offers greater than −30 dB attenuation at frequencies from 900 MHz to 3.0 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)
  30 kV (Contact)
- DFN8, 2x2 mm Package
- Moisture Sensitivity Level 1
- ESD Ratings: Machine Model = C
  Human Body Model = 3B
- Matching Series Impedances for Speaker Applications
- 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.

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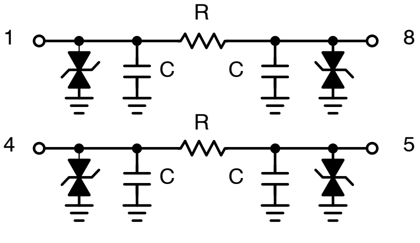
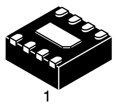
http://onsemi.com

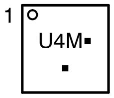


(Top View)

MARKING DIAGRAM



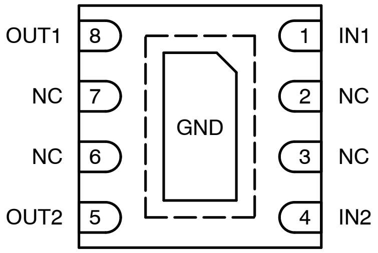
DFN8
CASE 506AA



U4 = Specific Device Code
$\overline{\text{M}}$ = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

PIN CONNECTIONS



(Bottom View)

ORDERING INFORMATION

Device	Package	Shipping†
NUF2114MNT1G	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.

October, 2011 − Rev. 0

Publication Order Number:
NUF2114/D

MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
ESD Discharge IEC61000−4−2	Contact Discharge	V_{PP}	30	kV
Steady−State Power per Resistor @ 25°C		P_R	180	mW
Steady−State Power per Package @ 25°C		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

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°C unless otherwise noted)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Maximum Reverse Working Voltage		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	–	–	0.1	μA
Resistance	I_F = 40 mA	R	8.1	9.0	9.9	Ω
Capacitance per Diode (Notes 1, 3)		C_d	51	60	66	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)

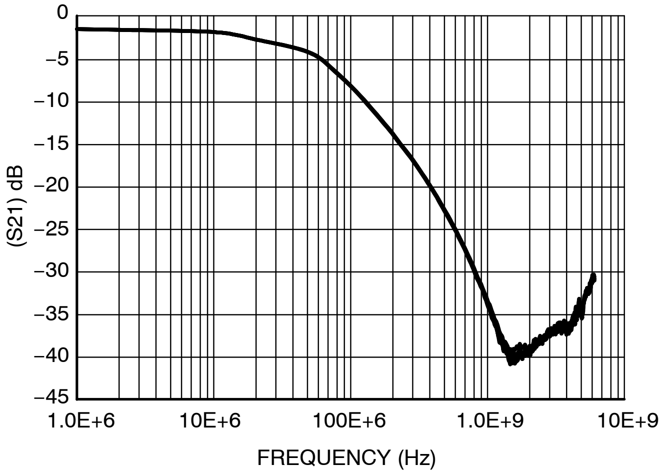


Figure 1. Insertion Loss Characteristics

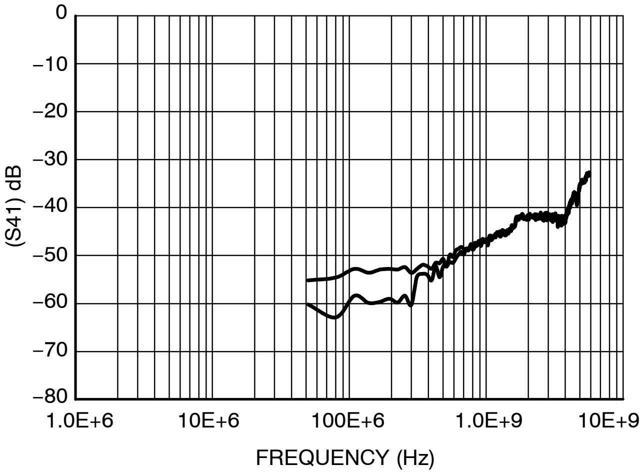


Figure 2. Analog Cross−Talk

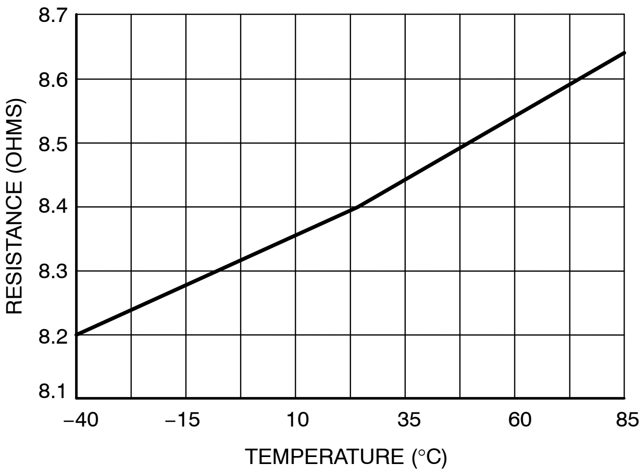


Figure 3. Typical Resistance over Temperature

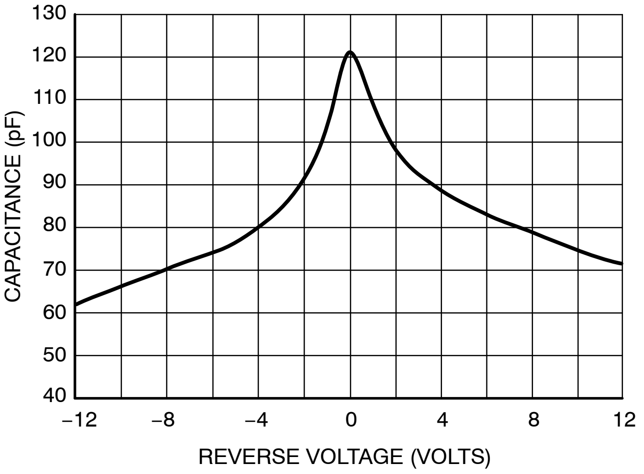
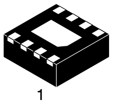


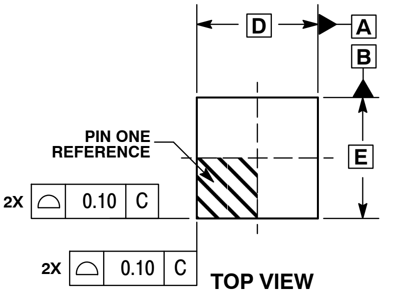
Figure 4. Typical Line Capacitance vs. Reverse Bias Voltage



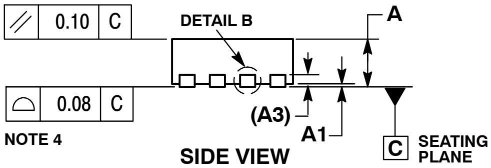
SCALE 4:1

DFN8 2x2, 0.5P
CASE 506AA
ISSUE F

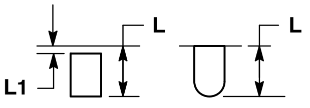
DATE 04 MAY 2016



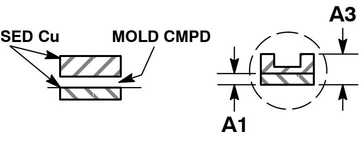
TOP VIEW



SIDE VIEW



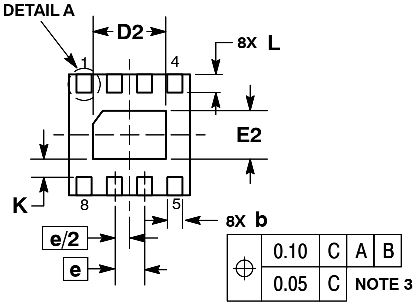
DETAIL A
OPTIONAL CONSTRUCTIONS



DETAIL B
ALTERNATE CONSTRUCTIONS

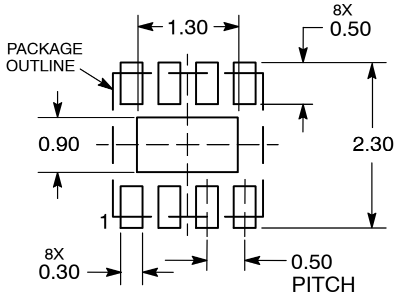
NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994 .
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.15 AND 0.20 MM FROM TERMINAL TIP.
4. COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

	MILLIMETERS	
DIM	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	0.30 REF	
L	0.25	0.35
L1	---	0.10



BOTTOM VIEW

RECOMMENDED SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS

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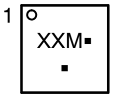
GENERIC MARKING DIAGRAM*



XX = Specific Device Code
M = Date Code
▪ = Pb−Free Device

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “▪”, may or may not be present. Some products may not follow the Generic Marking.

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DESCRIPTION:	**DFN8, 2.0X2.0, 0.5MM PITCH**	**PAGE 1 OF 1**

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