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

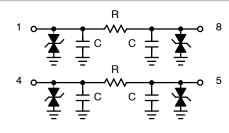
Applications

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



ON Semiconductor®

http://onsemi.com



(Top View)

MARKING DIAGRAM



DFN8 CASE 506AA



U4 = Specific Device Code

M = Date Code

= Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping [†]
NUF2114MNT1G	DFN8 (Pb-Free)	3000 / Tape & Reel
	(FD-1166)	

[†]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.

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

MAXIMUM RATINGS

Parameter			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			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)			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.

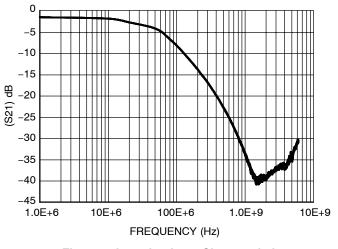
ELECTRICAL CHARACTERISTICS ($T_J = 25^{\circ}C$ unless otherwise noted)

Parameter	Test Conditions	Symbol	Min	Тур	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	μΑ
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

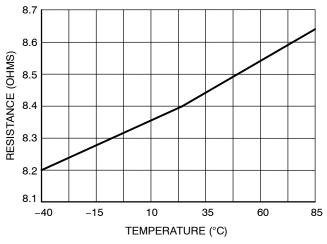
(T_A = 25°C unless otherwise specified)



0 -10 -20 -30 -30 -60 -60 -70 -80 1.0E+6 10E+6 100E+6 1.0E+9 10E+9 FREQUENCY (Hz)

Figure 1. Insertion Loss Characteristics

Figure 2. Analog Cross-Talk



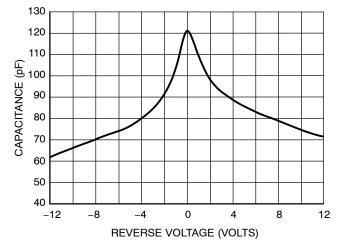
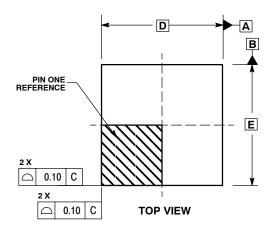


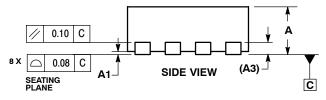
Figure 3. Typical Resistance over Temperature

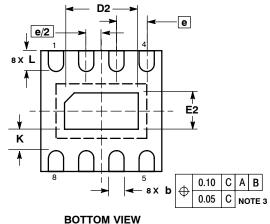
Figure 4. Typical Line Capacitance vs. Reverse Bias Voltage

PACKAGE DIMENSIONS

DFN8 CASE 506AA-01 ISSUE D







NOTES

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

	MILLIMETERS			
DIM	MIN	MAX		
Α	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		
Е	2.00 BSC			
E2	0.70	0.90		
е	0.50 BSC			
K	0.20			
L	0.25 0.35			

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