

# NUF8152MU

## 8 Line LCD & Camera EMI Filter with ESD Protection

NUF8152MU is an 8 line LRC EMI filter array designed for LCD and camera portable applications. It provides superior attenuation at frequencies from 800 MHz to 3.0 GHz and offers ESD protection-clamping transients from static discharges. Housed in a UDFN package, it is specifically designed for low profile or slim-design electronics where space and height are at a premium. ESD protection is provided across all capacitors.

### Features

- Provides EMI Filtering and ESD Protection
- Integration of 40 Discretes
- Compliance with IEC61000-4-2 (Level 4)  
13 kV (Contact)
- UDFN16, 1.2 x 3.5 mm Package
- Low Profile, 0.5 mm Height Typical
- 0.4 mm Pitch
- Moisture Sensitivity Level 1
- ESD Ratings: Machine Model = C  
Human Body Model = 3B
- Excellent Line Efficiency with Low Line Resistance
- This is a Pb-Free Device\*

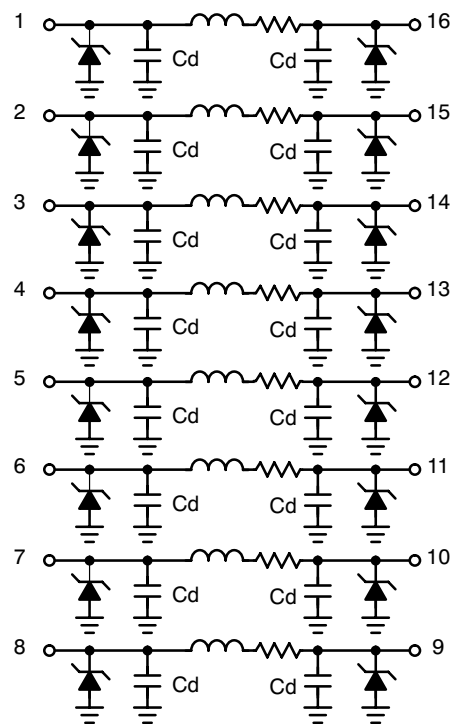
### Applications

- Headset
- MP3s
- PDAs
- Digital Cameras
- Portable DVDs
- Hands-Free Interface

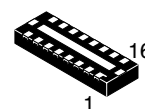


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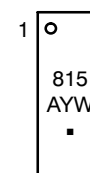


(Top View)



UDFN16  
CASE 517AF

### MARKING DIAGRAM



- 815 = Specific Device Code
- A = Assembly Location
- Y = Year
- W = Work Week
- = Pb-Free Package

### ORDERING INFORMATION

Device	Package	Shipping†
NUF8152MUT2G	UDFN16 (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 Specifications 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.

# NUF8152MU

## MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
ESD Discharge IEC61000-4-2 Contact Discharge	$V_{PP}$	13	kV
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

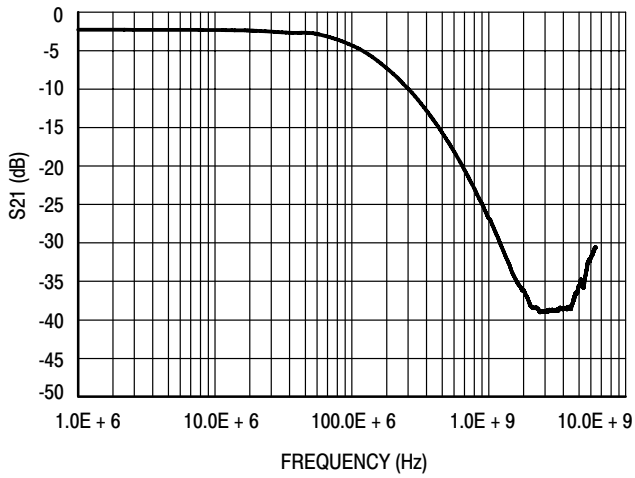
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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

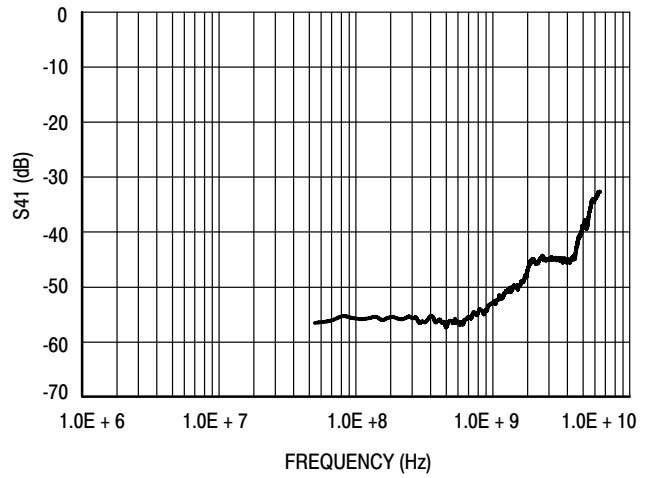
Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Maximum Reverse Working Voltage		$V_{RWM}$			5.0	V
Breakdown Voltage	$I_R = 1.0 \text{ mA}$	$V_{BR}$	6.0	7.0	8.0	V
Leakage Current	$V_{RWM} = 3.3 \text{ V}$	$I_R$			0.1	$\mu\text{A}$
Inductance		L		1.0	3.0	nH
Resistance (Line)		R		28	36	$\Omega$
Capacitance (Note 1, 2)		$C_d$		17		pF
Cut-Off Frequency (Note 3)	Above this frequency, appreciable attenuation occurs	$f_{3dB}$		125		MHz

1. Measured at  $25^\circ\text{C}$ ,  $V_R = 2.5 \text{ V}$ ,  $f = 1.0 \text{ MHz}$ .
2. Total line capacitance is 2 times the diode capacitance ( $C_d$ ).
3.  $50 \Omega$  source and  $50 \Omega$  load termination.

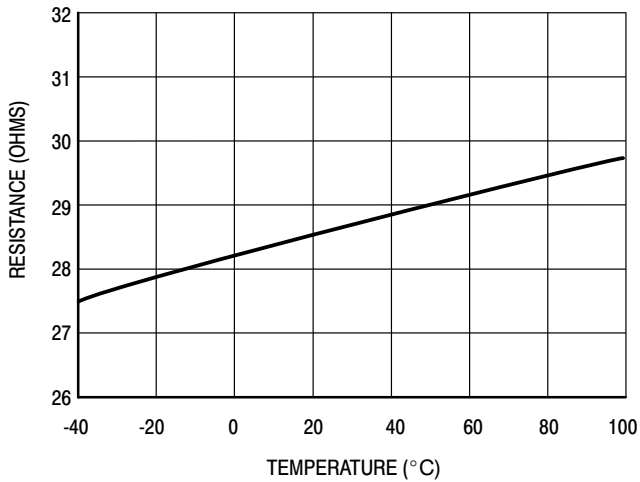
# NUF8152MU



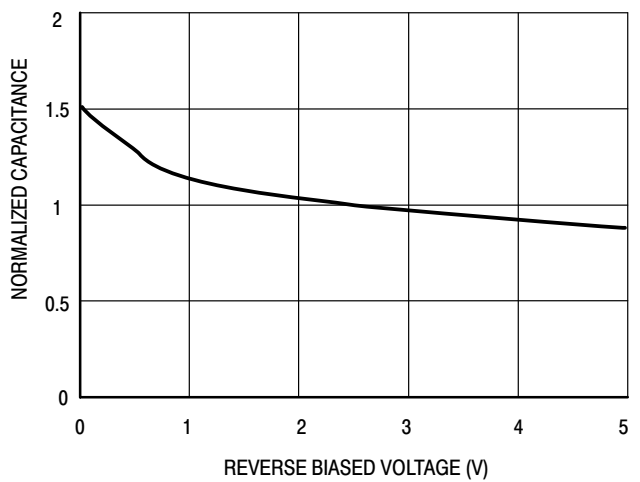
**Figure 1. Typical Insertion Loss Characteristics (S21 Measurement)**



**Figure 2. Analog Crosstalk Curve (S41 Measurement)**



**Figure 3. Typical Resistance Over Temperature**

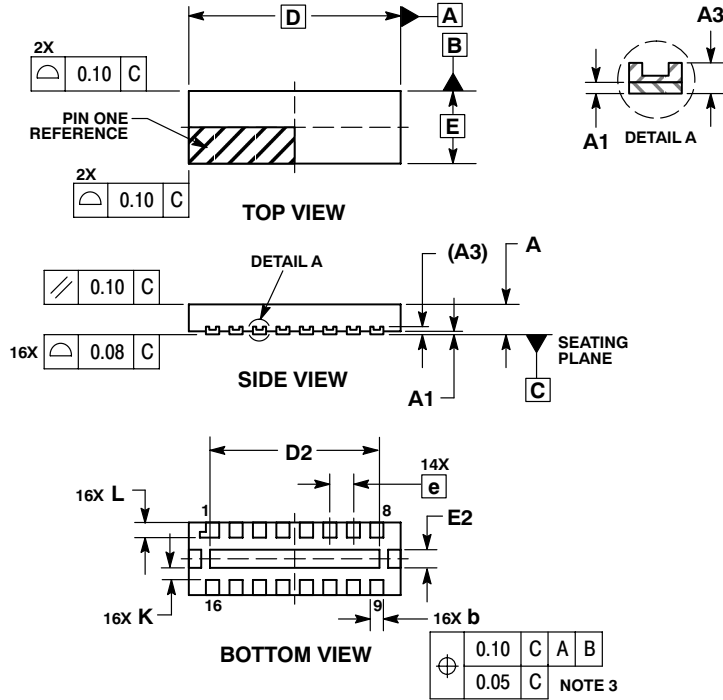


**Figure 4. Typical Line Capacitance vs. Reverse Bias Voltage (Normalized to Capacitance @ 2.5 V)**

# NUF8152MU

## PACKAGE DIMENSIONS

UDFN16, 3.5x1.2, 0.4P  
CASE 517AF-01  
ISSUE B

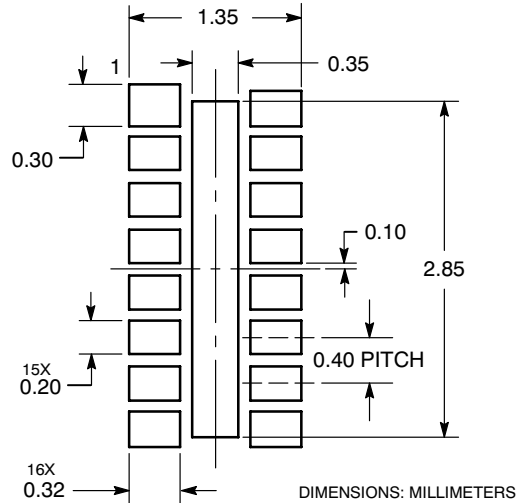


NOTES:

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	NOM	MAX
A	0.45	0.50	0.55
A1	0.00	0.03	0.05
A3	0.127 REF		
b	0.15	0.20	0.25
D	3.50 BSC		
D2	2.70	2.80	2.90
E	1.20 BSC		
E2	0.20	0.30	0.40
e	0.40 BSC		
K	0.20	---	---
L	0.20	0.25	0.30

### SOLDERING FOOTPRINT\*



\*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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