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*

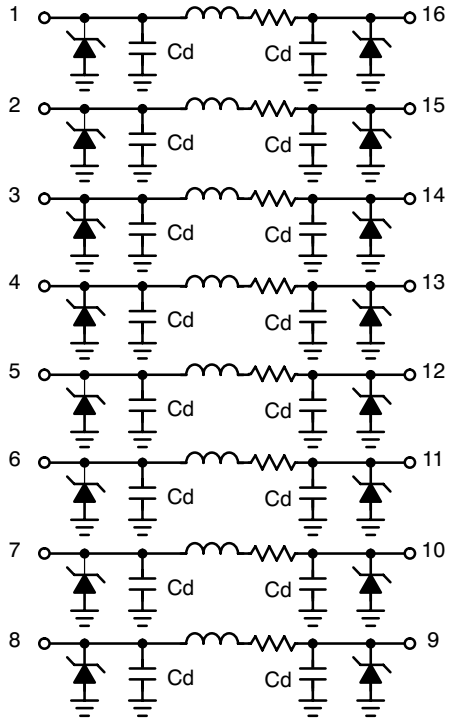
Applications

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

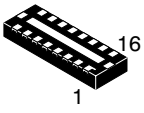
*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

ON Semiconductor®

http://onsemi.com

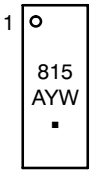


(Top View)



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.

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°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 mA	V_{BR}	6.0	7.0	8.0	V
Leakage Current	V_{RWM} = 3.3 V	I_R			0.1	μA
Inductance		L		1.0	3.0	nH
Resistance (Line)		R		28	36	Ω
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°C, V_R = 2.5 V, f = 1.0 MHz.
2. Total line capacitance is 2 times the diode capacitance (C_d).
3. 50 Ω source and 50 Ω load termination.

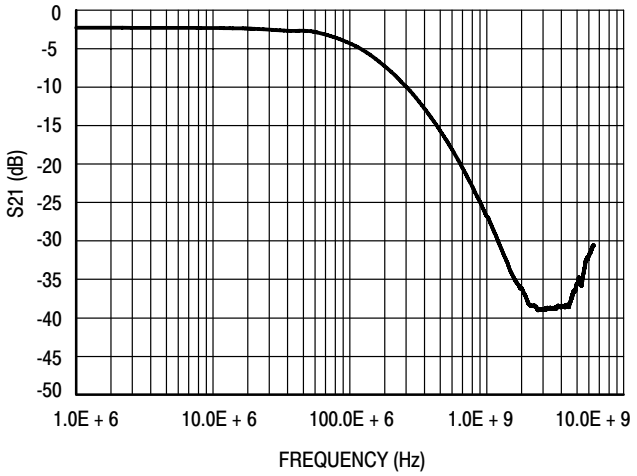


Figure 1. Typical Insertion Loss Characteristics (S21 Measurement)

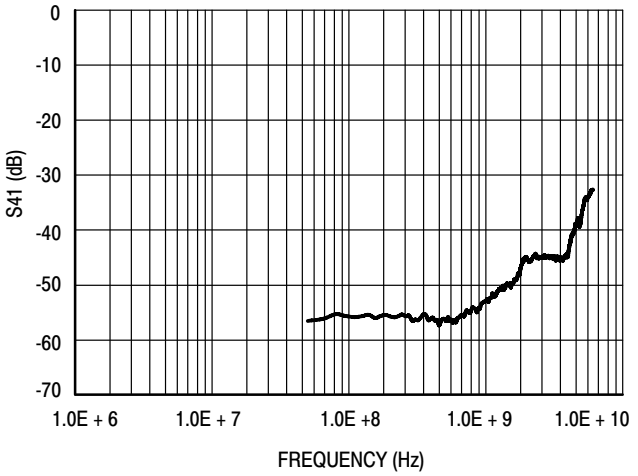


Figure 2. Analog Crosstalk Curve (S41 Measurement)

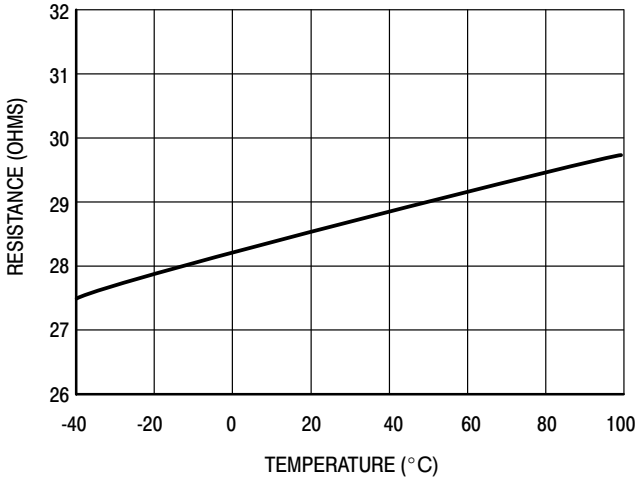


Figure 3. Typical Resistance Over Temperature

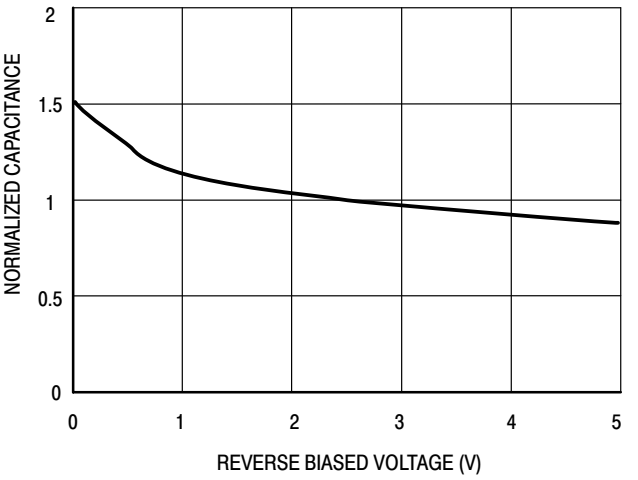
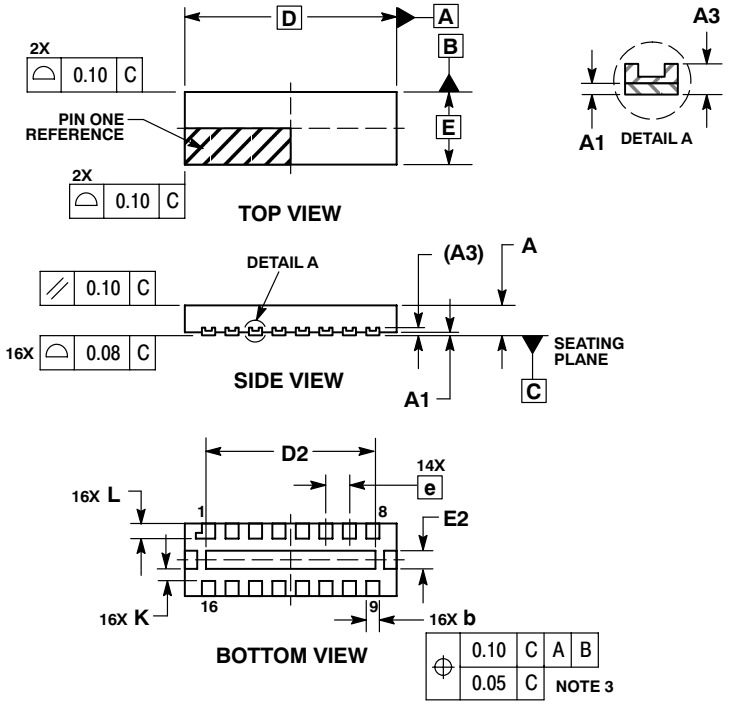


Figure 4. Typical Line Capacitance vs. Reverse Bias Voltage (Normalized to Capacitance @ 2.5 V)

PACKAGE DIMENSIONS

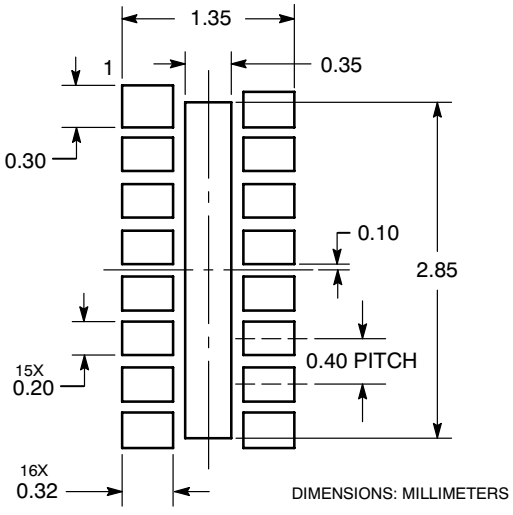
UDFN16, 3.5x1.2, 0.4P
CASE 517AF-01
ISSUE B



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.

	MILLIMETERS		
DIM	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.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free USA/Canada
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Phone: 81-3-5773-3850

ON Semiconductor Website: **www.onsemi.com**

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative

NUF8152MU/D