NUF2441FC

Advance Information

Integrated Passive Filter with ESD Protection

This device is designed for cell phone applications requiring **Headset and Speaker Phone**, **EMI Filtering** and **ESD Protection**. This device offers an integrated solution in a small package reducing PCB space and cost.

Features:

- Provides EMI Filtering and ESD Protection
- Single IC Offers Cost Savings by Replacing 2 Inductors, 4 Capacitors, and 4 TVs diodes
- Compliance with IEC61000−4−2, (Level 4) 30 kV (Contact), 30 kV (air)
- Flip−Chip Package
- Moisture Sensitivity Level 1
- ESD Ratings: Machine Model = C
  Human Body Model = 3B
- This is a Pb−Free Device

Benefits:

- Flip−Chip Package Minimizes PCB Space
- Integrated Circuit Increases System Reliability versus Discrete Component Implementation
- TVs Devices Provide ESD Protection That is Better than a Discrete Implementation because the Small IC minimizes Parasitic Inductances

Typical Applications:

- Cell Phones
- Communication Circuits

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Value	Unit
ESD Discharge IEC61000−4−2 Contact Discharge Air Discharge	V_{pp}	 30 30	kV
Operating Temperature Range	T_J	−40 to +125	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C
Lead Solder Temperature (10 second duration)	T_L	260	°C

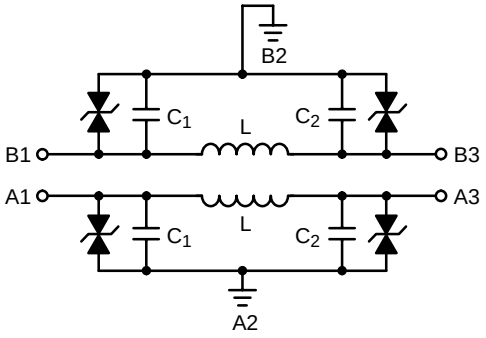
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

This document contains information on a new product. Specifications and information herein are subject to change without notice.

ON Semiconductor®

http://onsemi.com

CIRCUIT DESCRIPTION



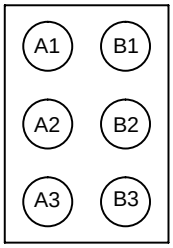
A1

Flip−Chip
CASE 499J

MARKING DIAGRAM

A = Device Code
D = Date Code

PIN CONFIGURATION



(Bump View)

ORDERING INFORMATION

Device	Package	Shipping†
NUF2441FCT1G	Flip−Chip (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.

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Device	Device Marking	V_{RWM} (Volts)	V_{BR} @ 1 mA (Volts)		Max I_R @ V_{RWM} = 12 V I/O Pin (μA)	Typical Capacitance $C_1 + C_2$ (pF) (Notes 1, 3)	Typical Pass−Band Inductance L (nH)	Equivalent Series Resistance R_S (Ω) (Note 2)	
			Min	Max				Typ	Max
NUF2441FCT1G	AD	12	14	18	0.1	240	2.9	0.32	0.5

1. Measured at 25°C, V_R = 0, f = 1 MHz, Source A1, GND A2, Open A3.
2. Measured at Room Temp
3. Tolerance = ±20%

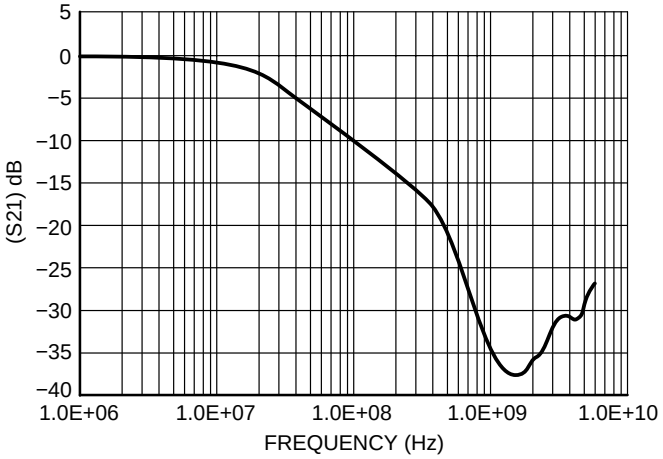


Figure 1. Insertion Loss Characteristic

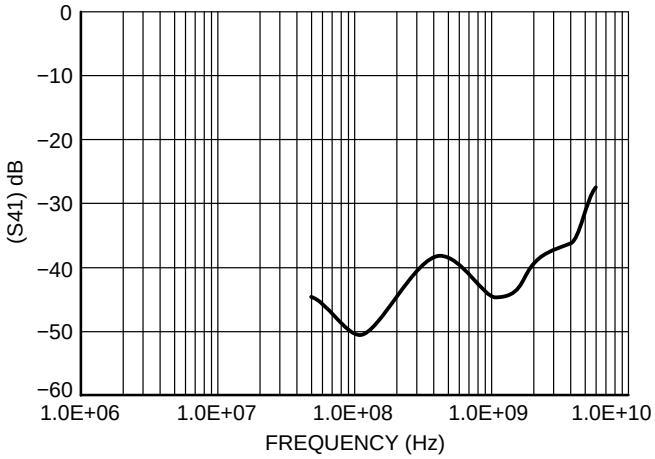


Figure 2. Analog Crosstalk

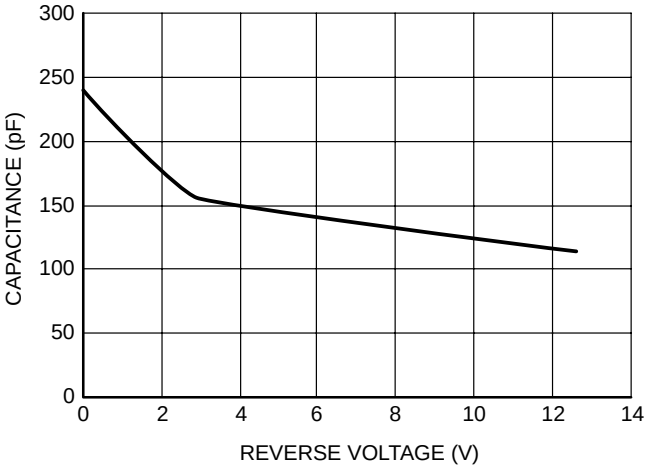


Figure 3. Typical Line Capacitance vs. Reverse Bias Voltage

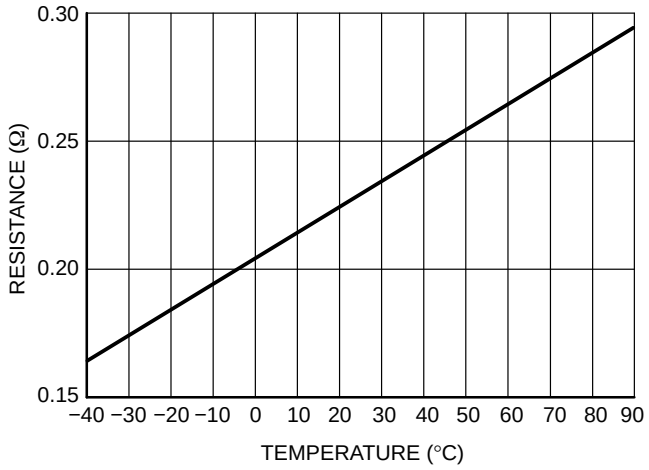
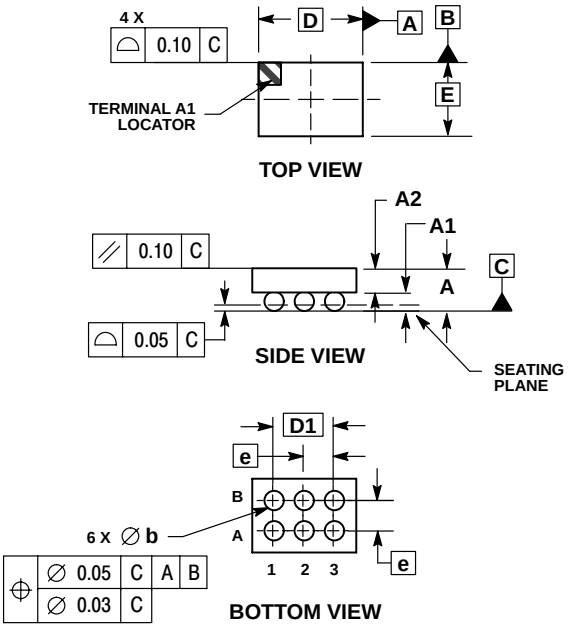


Figure 4. Typical Resistance vs. Temperature

PACKAGE DIMENSIONS

6 PIN FLIP−CHIP CSP
CASE 499J−01
ISSUE O



NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. COPLANARITY APPLIES TO SPHERICAL CROWNS OF SOLDER BALLS.

	MILLIMETERS	
DIM	MIN	MAX
A	−−−	0.700
A1	0.210	0.270
A2	0.380	0.430
D	1.720 BSC	
E	1.220 BSC	
b	0.290	0.340
e	0.500 BSC	
D1	1.000 BSC	

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

Japan: ON Semiconductor, Japan Customer Focus Center
2−9−1 Kamimeguro, Meguro−ku, Tokyo, Japan 153−0051
Phone: 81−3−5773−3850

ON Semiconductor Website: http://onsemi.com

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

For additional information, please contact your local Sales Representative.