NUF2102UT1

Product Preview

USB Filter with ESD Protection

This device is designed for applications requiring **Line Termination**, **EMI Filtering** and **ESD Protection**. It is intended for use in upstream USB ports, Cellular phones, Wireless equipment and computer applications. This device offers an integrated solution in a small package reducing PCB space and cost.

Features:

- Provides USB Line Termination, Filtering and ESD Protection
- Single IC Offers Cost Savings by Replacing 3 Resistors, 2 Capacitors, and 5 TVs diodes
- Bi–directional EMI Filtering Prevents Noise from Entering/Leaving the System
- IEC61000–4–2 ESD Protection for USB Port
- Flexible Pull–down or Pull–up Line Termination to Meet USB 1.1 Low Speed and High Speed Specification
- ESD Ratings: Machine Model = C
  Human Body Model = 3B

Benefits:

- MicroLeadless 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:

- USB Hubs
- Computer Peripherals Using USB

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Value	Unit
Steady State Power	P_D	225	mW
Maximum Junction Temperature	$T_{J(max)}$	125	°C
Operating Temperature Range	T_J	–55 to +125	°C
Storage Temperature Range	T_{stg}	–55 to +125	°C
Lead Solder Temperature (10 second duration)	T_L	260	°C

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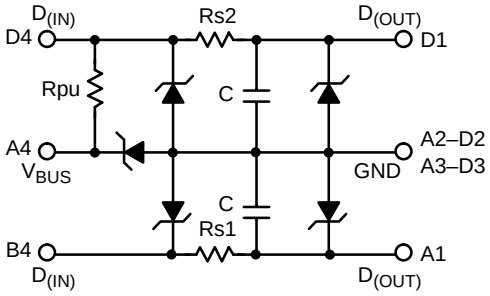
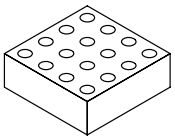
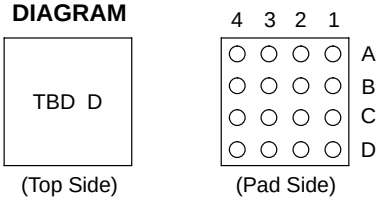
CIRCUIT DESCRIPTION





MicroLeadless™ 2020
CASE TBD
PLASTIC

MARKING DIAGRAM



(Top Side) (Pad Side)

TBD = Specific Device Code
D = Date Code

ORDERING INFORMATION

Device	Package	Shipping
NUF2102UT1	MicroLeadless 2020	3000/Tape & Reel

This document contains information on a product under development. ON Semiconductor reserves the right to change or discontinue this product without notice.

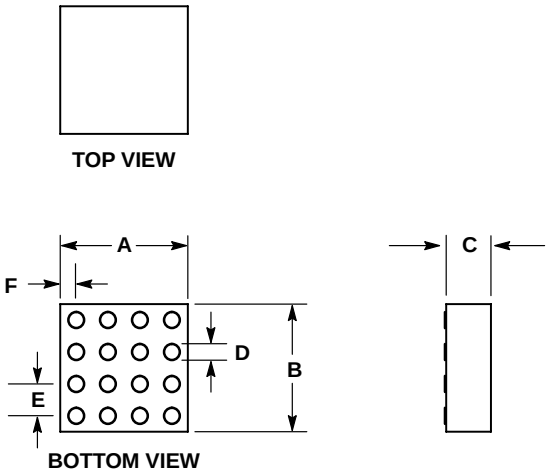
ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Device	Device Marking	V_{RWM} (Volts)	V_{BR} @ 1 mA (Volts)		Max I_R @ V_{RWM} = 5.25 V V_{BUS} to GND (μA)	Max I_R @ V_{RWM} = 3.3 V I/O Pin (μA)	Typical Line Capacitance (pF)	Series Resistor R_S (Ω)			Pull–up Resistor R_{up} (kΩ)		
			Min	Max				Min	Nom	Max	Min	Nom	Max
NUF2102UT1	TBD	5.25	6.0	8.0	5.0	1.0	68	20	22	24	1.35	1.5	1.65

1. For other capacitance values contact your local ON Semiconductor sales representative.
2. Measured at 25°C, V_R = 0 V, f = 1 MHz, Pin D4, B4, D1, or A1 to GND with pin A4 also grounded.

OUTLINE DIMENSIONS

2020 MicroLeadless™ PGA
PLASTIC PACKAGE
PRELIMINARY CASE
ISSUE O



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.

	MILLIMETERS	
DIM	TYP	MAX
A	2.0	---
B	2.0	---
C	0.7	---
D	0.25	---
E	0.50	---
F	0.25	---

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PUBLICATION ORDERING INFORMATION

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