

NUF2220XV6

2 Line EMI Filter with ESD Protection

This device is a 2 line EMI filter array for wireless applications. Greater than -20 dB attenuation is obtained at frequencies from 800 MHz to 2.4 GHz. It also offers ESD protection—clamping transients from static discharges. ESD protection is provided across all capacitors.

Features

- EMI Filtering and ESD Protection
- Integration of 10 Discrete Components
- Compliance with IEC61000-4-2 (Level 4)
> 8.0 kV (Contact)
- SOT-563 Package
- Moisture Sensitivity Level 1
- ESD Ratings: Machine Model = C
Human Body Model = 3B
- These are Pb-Free Devices

Benefits

- Reduces EMI/RFI Emissions on a Data Line
- Integrated Solution Offers Cost and Space Savings in a SOT-563 Package
- Reduces Parasitic Inductances Which Offer a More “Ideal” Low Pass Filter Response
- Integrated Solution Improves System Reliability

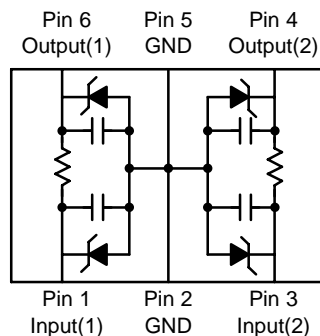
Applications

- EMI Filtering and ESD Protection for Data Lines
- Wireless Phones
- PDAs and Handheld Products
- Notebook Computers
- LCD Displays

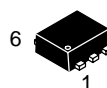


ON Semiconductor®

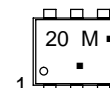
<http://onsemi.com>



MARKING DIAGRAM



SOT-563
CASE 463A



20 = Specific Device Code
M = Month Code
▪ = Pb-Free Package
(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
NUF2220XV6T1	SOT-563	4000/Tape & Reel
NUF2220XV6T1G	SOT-563	4000/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.

NUF2220XV6

MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
ESD Discharge IEC61000-4-2 Air Discharge Contact Discharge	V _{PP}	15 8.0	kV
Steady-State Power per Resistor	P _R		mW
Steady-State Power per Package	P _T		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 seconds)	T _L	260	°C

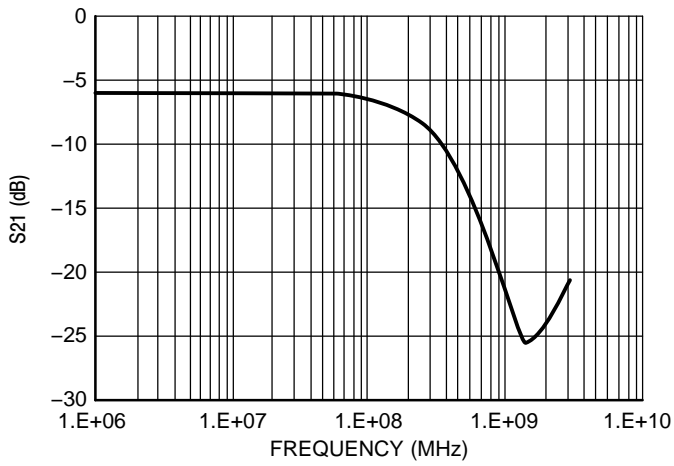
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur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

ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise noted)

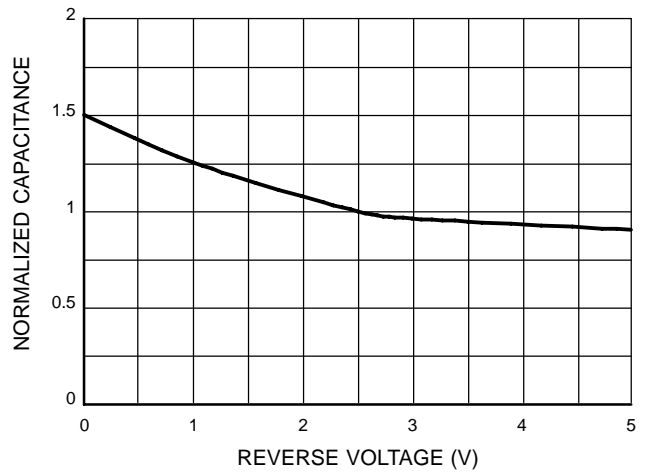
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Maximum Reverse Working Voltage	V _{RWM}				5.0	V
Breakdown Voltage	V _{BR}	I _R = 1.0 mA	6.0	7.0		V
Leakage Current	I _R	V _{RWM} = 3.0 V			1.0	μA
Resistance	R _A	I _R = 20 mA	85	100	115	Ω
Capacitance (Notes 1 and 2)	C _d	V _R = 2.5 V, f = 1.0 MHz		7.0		pF
Cut-Off Frequency (Note 3)	f _{3dB}	Above this frequency, appreciable attenuation occurs		275		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.

NUF2220XV6



**Figure 1. Insertion Loss Characteristic
(50 Ω Source and 50 Ω Lead Termination)**



**Figure 2. Typical Capacitance vs.
Reverse Biased Voltage
(Normalized Capacitance, Cd @ 2.5 V)**

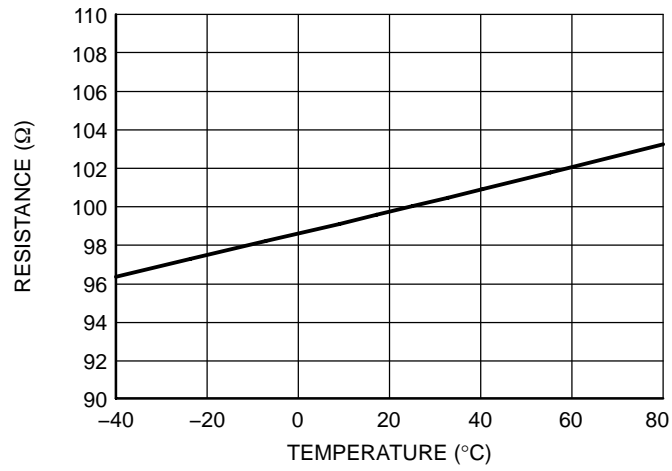


Figure 3. Typical Resistance over Temperature

onsemi, **Onsemi**, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi**'s product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that **onsemi** was negligent regarding the design or manufacture of the part. **onsemi** is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:

Technical Library: www.onsemi.com/design/resources/technical-documentation
onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support

For additional information, please contact your local Sales Representative at www.onsemi.com/support/sales