

8-line low capacitance EMI filter and ESD protection

Datasheet - production data



Features

- High efficiency in EMI filtering in wide filter bandwidth: better than -25 dB from 700 MHz to 3.0 GHz
- Very thin package: 0.6 mm max.
- High efficiency in ESD suppression on all input and output pins (exceeds IEC61000-4-2 level 4: ±20 kV contact discharge)
- High reliability offered by monolithic integration
- High reduction of parasitic elements through integration and wafer level packaging

Applications

- LCD and camera for mobile phones
- Computers and printers
- Communication systems
- MCU Boards

Description

This is a highly integrated 8-line device designed to suppress EMI/RFI noise in all systems exposed to electromagnetic interference.

This filter includes ESD protection circuitry, which prevents the application from damages when subjected to ESD surges up to 20 kV.

Figure 1: Pin configuration (top view)

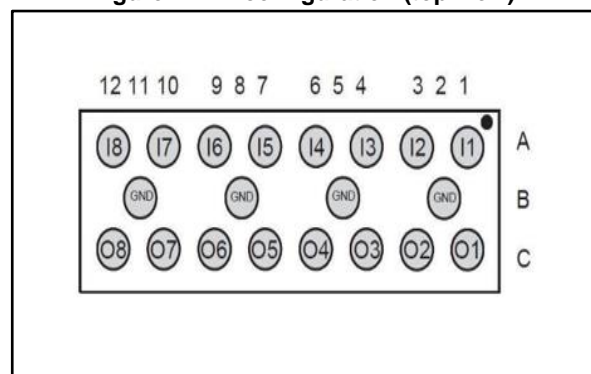
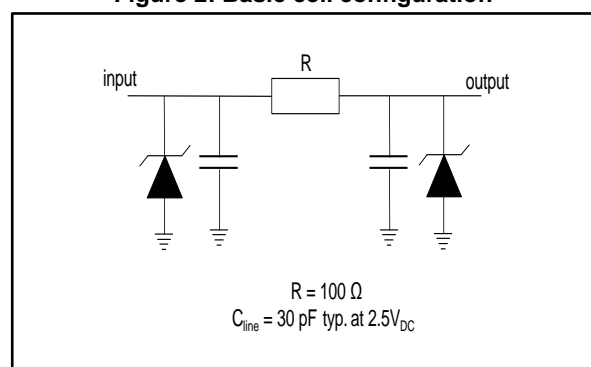


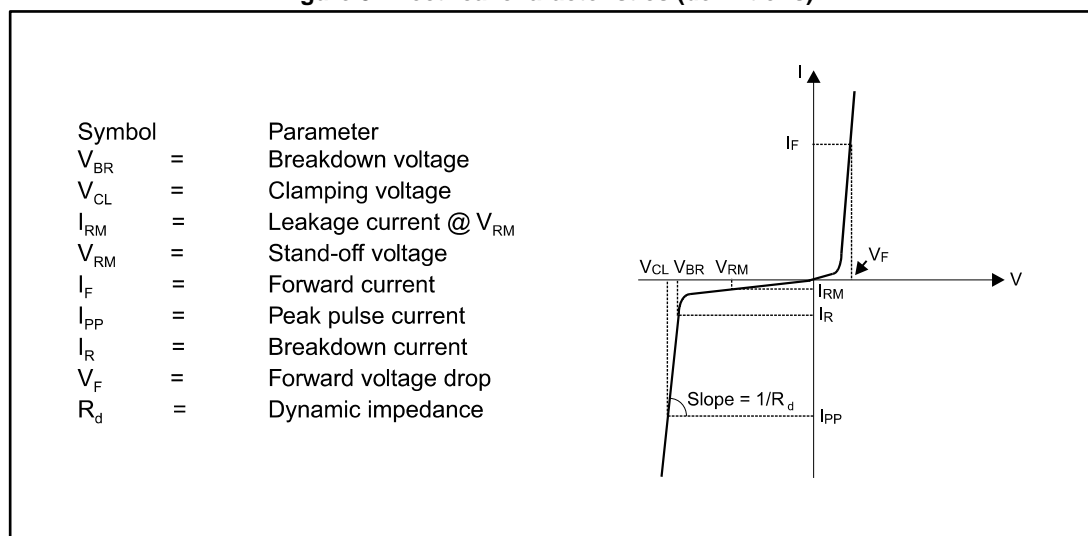
Figure 2: Basic cell configuration



1 Characteristics

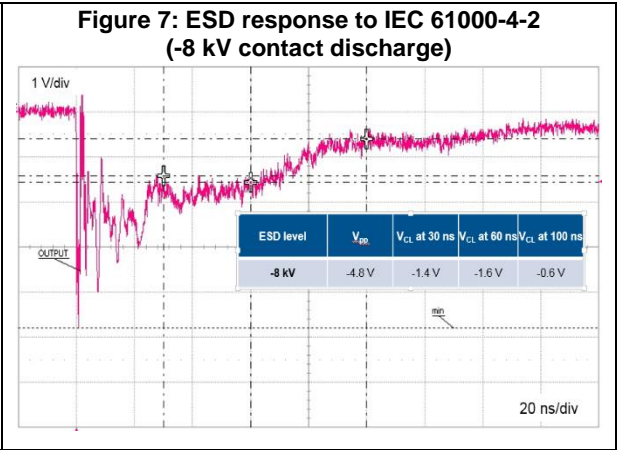
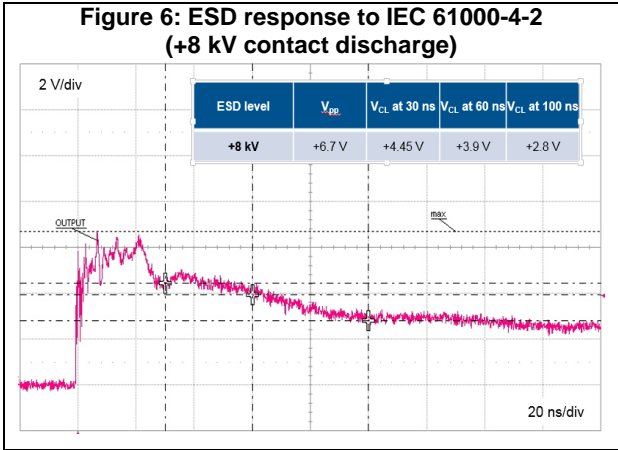
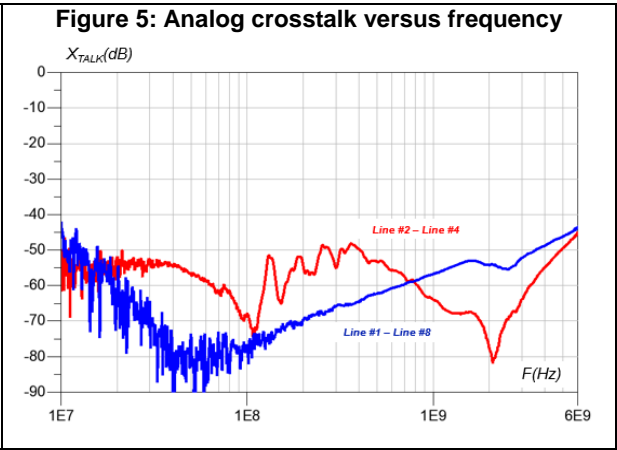
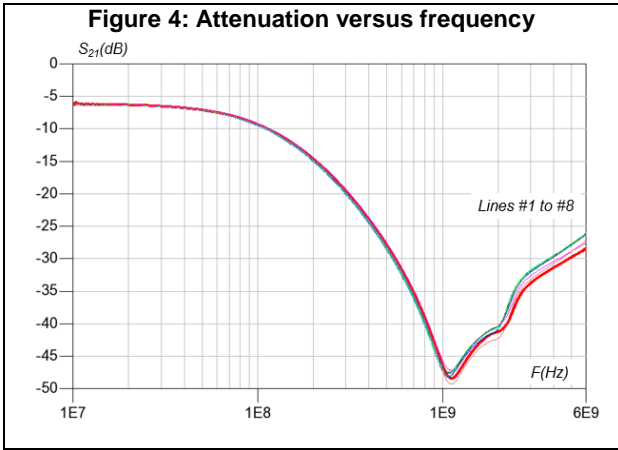
Table 1: Absolute maximum ratings ($T_{amb} = 25\text{ }^{\circ}\text{C}$)

Symbol	Parameter		Value	Unit
V_{pp}	Peak pulse voltage	IESD IEC 61000-4-2 Contact discharge Air discharge	± 20 ± 30	kV
T_j	Operating junction temperature		± 125	$^{\circ}\text{C}$
T_{stg}	Storage temperature range		-40 to +85	$^{\circ}\text{C}$
T_{op}	Operating temperature range		-65 to +150	$^{\circ}\text{C}$

Figure 3: Electrical characteristics (definitions)

Table 2: Electrical characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$)

Symbol	Test conditions	Min.	Typ.	Max.	Unit
V_{BR}	$I_R = 1\text{ mA}$	5.8		9	V
V_F	$I_F = 1\text{ mA}$	0.4		1.5	
I_{RM}	$V_{RM} = 3.5\text{ V per line}$			100	nA
R	Serial resistance	80	100	120	Ω
C_{line}	$V_{BIAS} = 2.5\text{ V}_{DC}$ reverse Bias, $F = 1\text{ MHz}$, $V_{OSC} = 30\text{ mV}$		30		pF
F_C	Cut-off frequency		98		MHz
S_{21}	Attenuation from 700 MHz to 3 GHz	-25	-30		dB
	$F = 1.7\text{ GHz}$		-45		

1.1 Characteristics (curves)



2 Package information

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com. ECOPACK® is an ST trademark.

2.1 WLCSP 20 bumps package information

Figure 8: WLCSP 20 bumps package outline

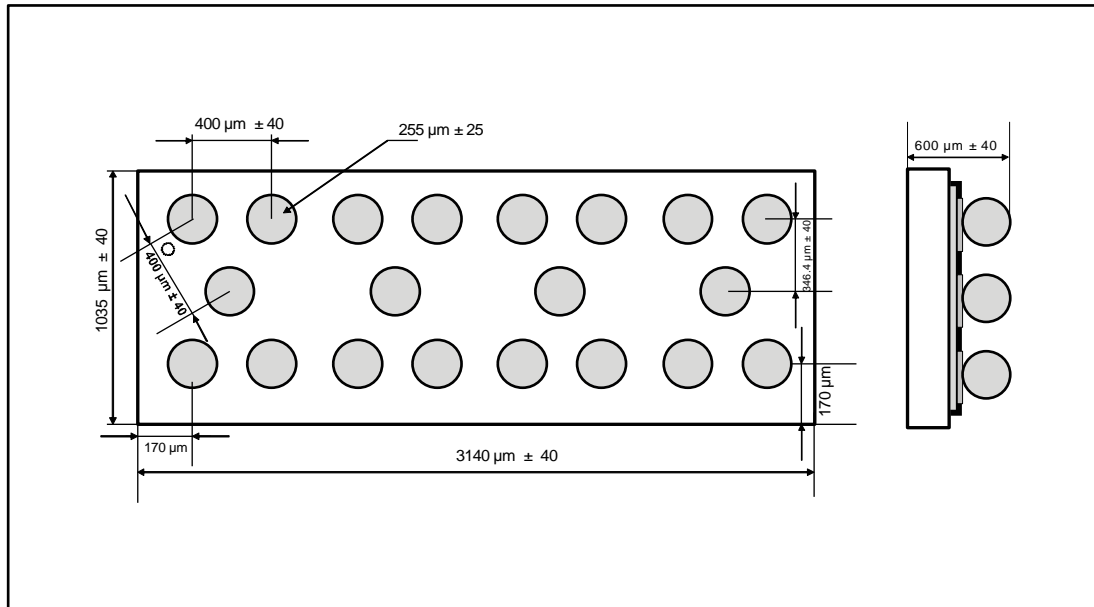


Figure 9: Footprint recommendations, dimensions in mm (inches)

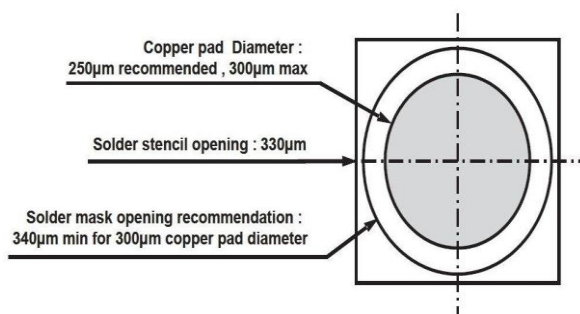


Figure 10: Marking layout

Dot, ST Logo
xx = marking
z = packaging location
yww = date code
Dimensions in μm

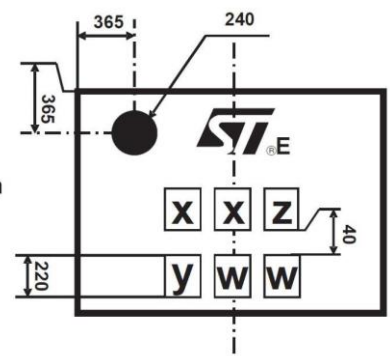
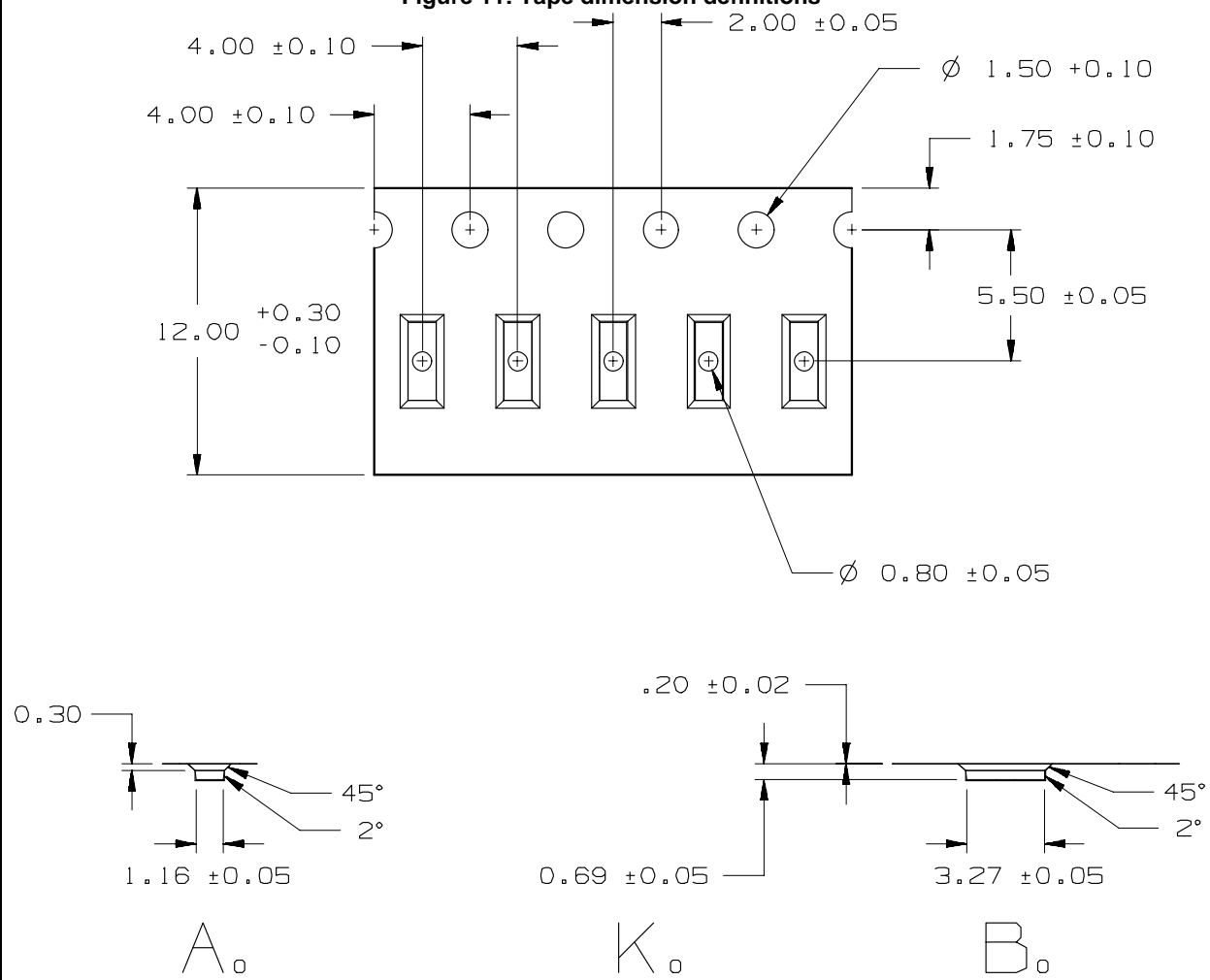


Figure 11: Tape dimension definitions



3 Ordering information

Figure 12: Ordering information scheme

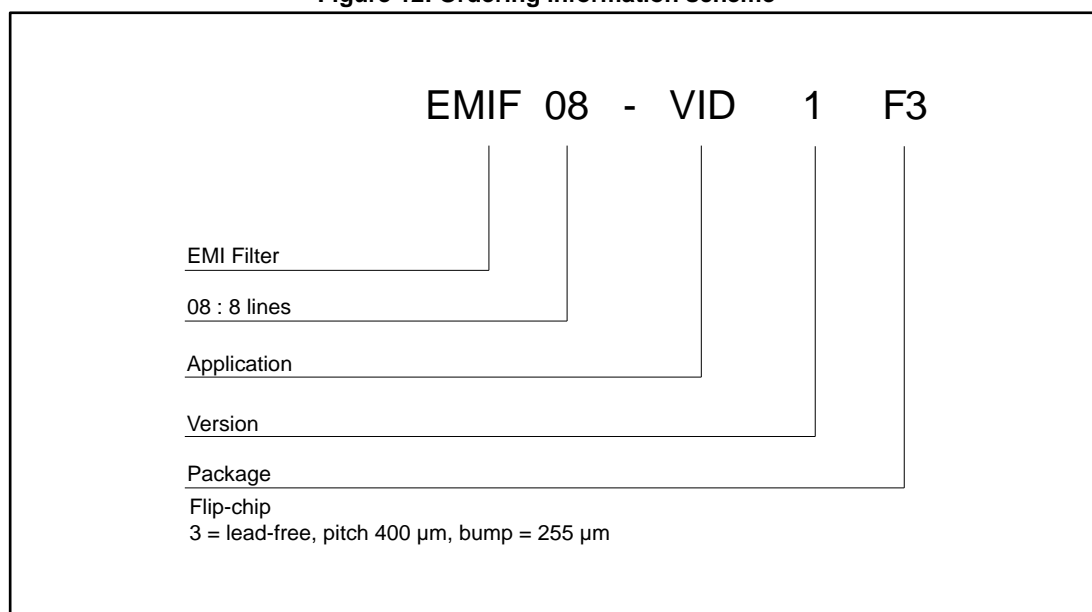


Table 3: Ordering information

Order code	Marking	Package	Weight	Base qty.	Delivery mode
EMIF08-VID1F3	LN	WLCSP 20 bumps	7.2 mg	5000	Tape and reel

4 Revision history

Table 4: Document revision history

Date	Revision	Changes
19-May-2017	1	Initial release.

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