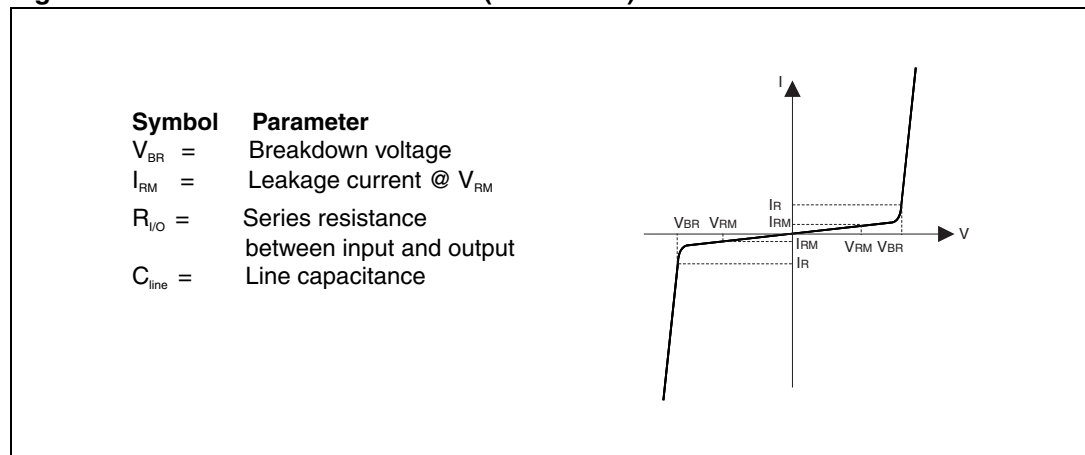


# 1 Electrical characteristics

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

Symbol	Parameter	Value	Unit
$V_{PP}$	<b>Internal pins (A1, B1, C1):</b>		
	ESD discharge IEC 61000-4-2, level 1, air discharge	$\pm 2$	kV
	ESD discharge IEC 61000-4-2, level 1, contact discharge	$\pm 2$	
	<b>External pins (A3, B3, C3, D1, D2 and D3):</b>		
	ESD discharge IEC 61000-4-2, level 4, air discharge	$\pm 15$	
	ESD discharge IEC 61000-4-2, level 4, contact discharge	$\pm 15$	
$P_d$	Line resistance power dissipation at $70\text{ }^{\circ}\text{C}$	60	mW
$T_{op}$	Operating temperature range	- 40 to + 85	$^{\circ}\text{C}$
$T_{stg}$	Storage temperature range	- 55 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
$V_{BR}$	$I_R = 1\text{ mA}$	6			V
$I_{RM}$	$V_{RM} = 3\text{ V per line}$		50	200	nA
$R_1, R_3$	Tolerance $\pm 20\%$	80	100	120	$\Omega$
$R_2$	Tolerance $\pm 20\%$	37.6	47	56.4	$\Omega$
$C_{line}$	$V_{line} = 0\text{ V}$ , $V_{osc} = 30\text{ mV}$ , $F = 1\text{ MHz}$ (measured under zero light conditions) <sup>(1)</sup>	8	10	12	pF

1. A2 and C2 bumps must be connected together on the printed circuit board

Figure 4. S21 (dB) attenuation measurement B3 - B1

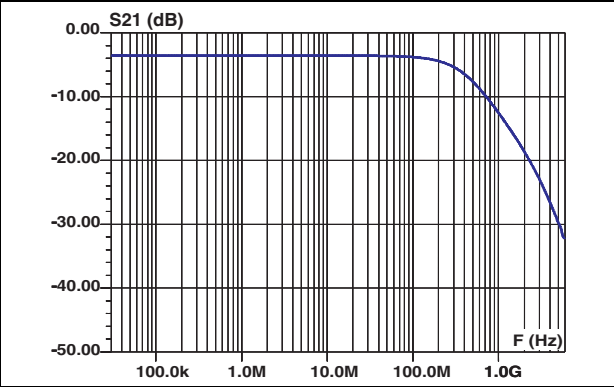


Figure 5. S21 (dB) analog crosstalk measurements C3 - A1

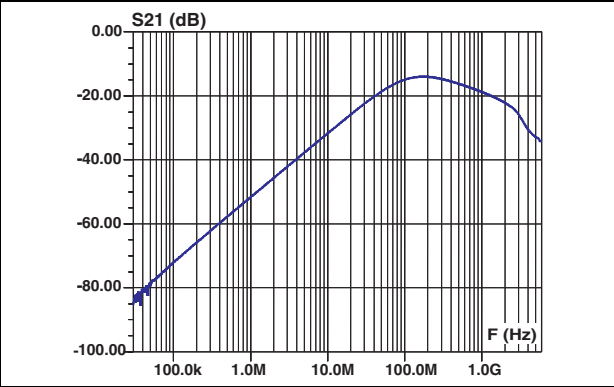


Figure 6. ESD response to IEC 61000-4-2 (+15 kV air discharge) on one line

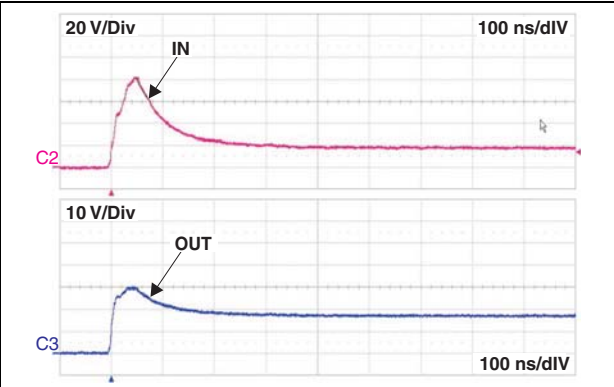


Figure 7. ESD response to IEC 61000-4-2 (-15 kV air discharge) on one line

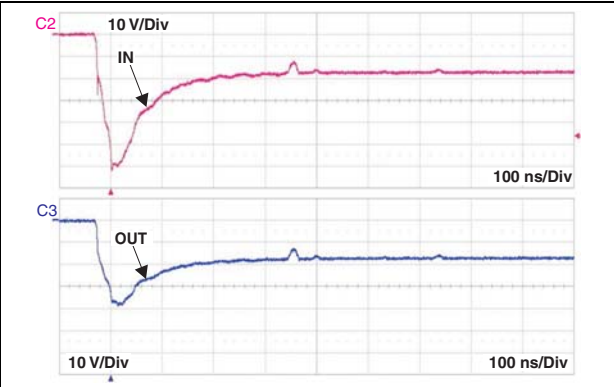
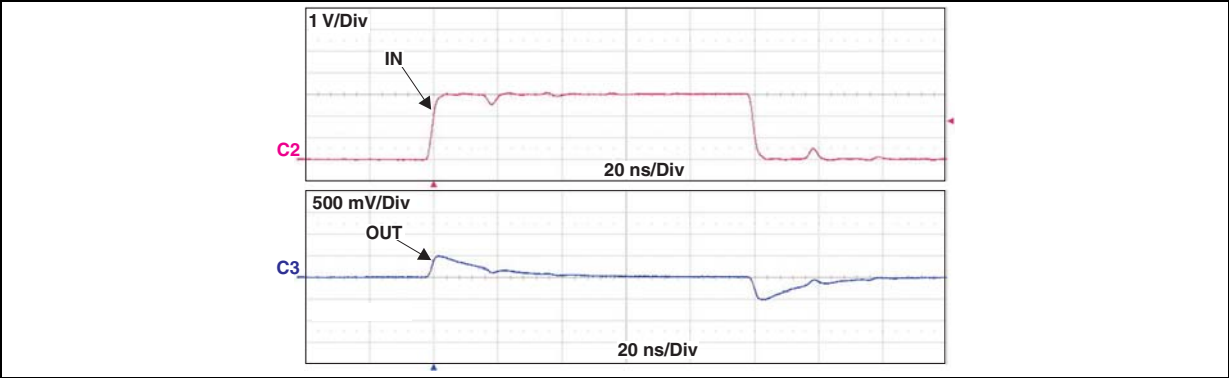
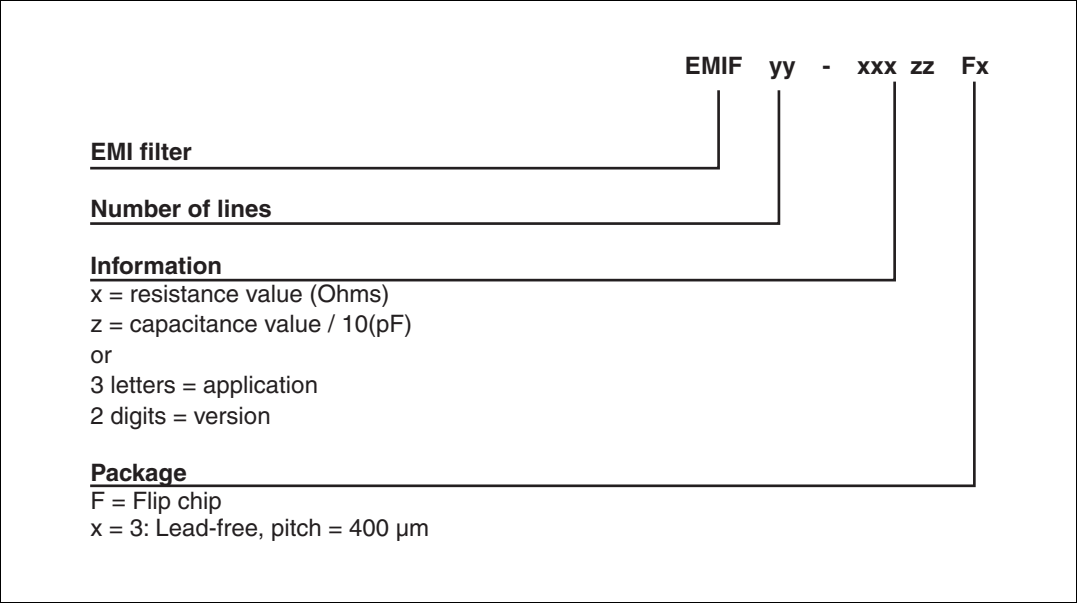


Figure 8. Digital crosstalk measurement



## 2      Ordering information scheme

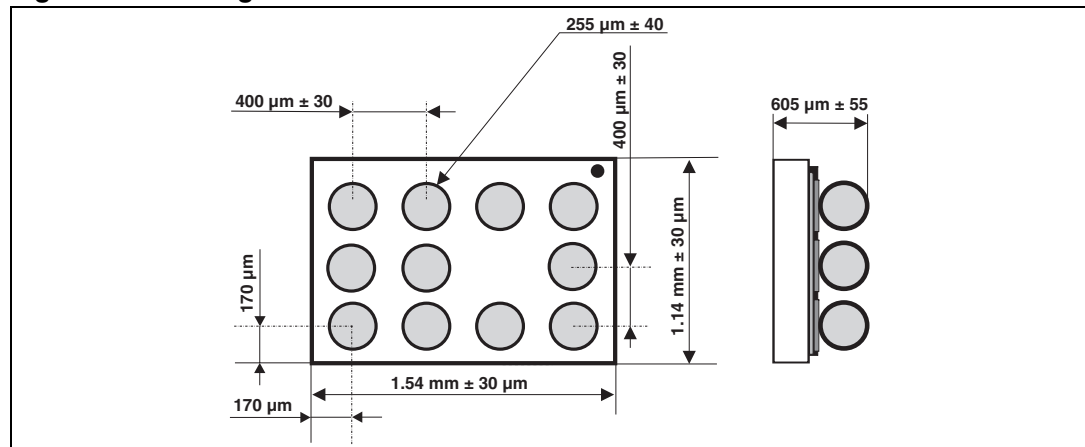
Figure 9.    Ordering information scheme



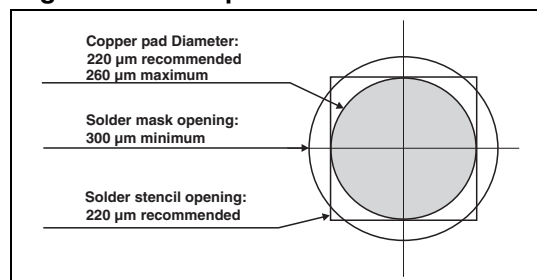
### 3 Package information

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](http://www.st.com). ECOPACK® is an ST trademark.

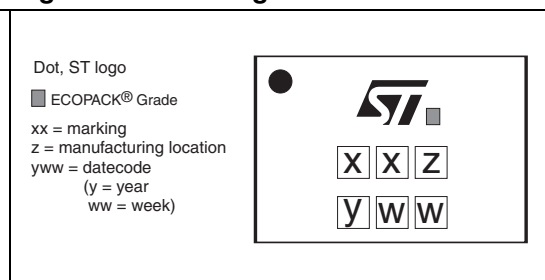
### Figure 10. Package dimensions



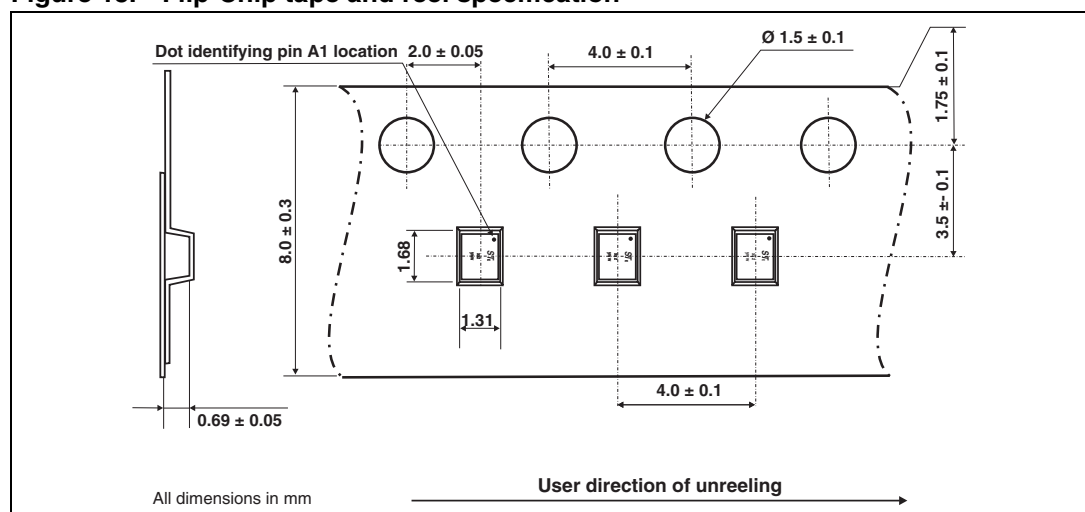
### Figure 11. Footprint



### Figure 12. Marking



**Figure 13. Flip-Chip tape and reel specification**



## 4 Ordering information

**Table 3. Ordering information**

Order code	Marking	Package	Weight	Base qty	Delivery mode
EMIF03-SIM04F3	J1	Flip Chip	1.74 mg	5000	Tape and reel 7"

Note:

More information is available in the application notes:

AN2348: "STMicroelectronics 400 micro-metre Flip Chip: package description and recommendation for use"

AN1751: "EMI filters: recommendations and measurements"

## 5 Revision history

**Table 4. Document revision history**

Date	Revision	Changes
03-May-2010	1	Initial release.
12-Oct-2010	2	Updated value $I_{RM}$ in <a href="#">Table 2</a> .

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