1 Characteristics

Table 1. Absolute maximum ratings (T_{amb} = 25 °C)

Symbol	Parameter	Value	Unit
V_{PP}	**Internal pins (A3, B3, C3):** ESD discharge IEC 61000-4-2(1), level 1 Air discharge Contact discharge **External pins (A1, A2, B1, C1, C2):** ESD discharge IEC 61000-4-2, level 4 Air discharge Contact discharge	 2 2 16 16	kV
T_j	Maximum junction temperature	150	°C
T_{op}	Operating temperature range	- 30 to + 85	
T_{stg}	Storage temperature range	- 55 to 150	

1. Measurements done on IEC 61000-4-2 test bench. For further details see Application note AN3353, “IEC 61000-4-2 standard testing”.

Figure 3. Electrical characteristics (definitions)

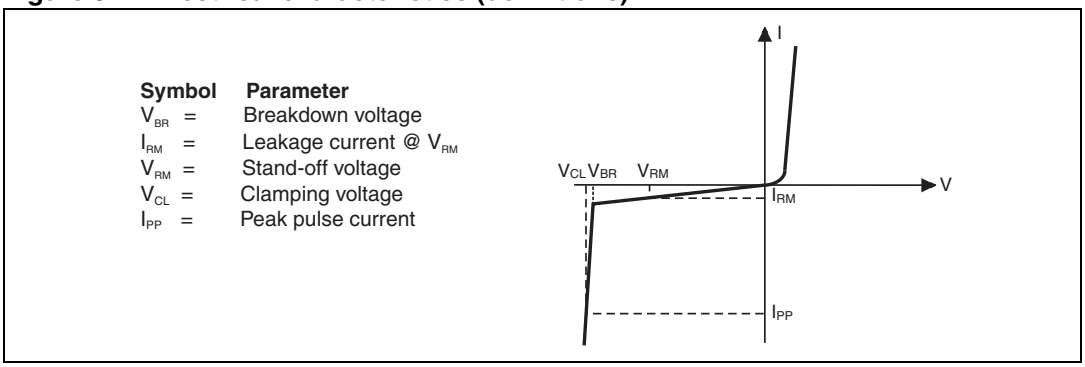


Table 2. Electrical characteristics (T_{amb} = 25 °C)

Symbol	Test conditions	Min.	Typ.	Max.	Unit
I_{RM}	V_{RM} = 3 V			100	nA
V_{BR}	I_R = 1 mA	6			V
R1, R3	RST, DATA serial resistor		100		Ω
R2	CLK serial resistor		47		
C_{line}	Line capacitance on RST, DATA, CLK lines V_{line} = 0 V, V_{osc} = 30 mV, F = 1 MHz (measured under zero light conditions)		12		pF
C_{SWP}	Line capacitance on SWP line V_{line} = 0 V, V_{osc} = 30 mV, F = 1 MHz (measured under zero light conditions)		2	3	pF

Figure 4. Attenuation measurements C1-C3, A2-A3, B1-B3

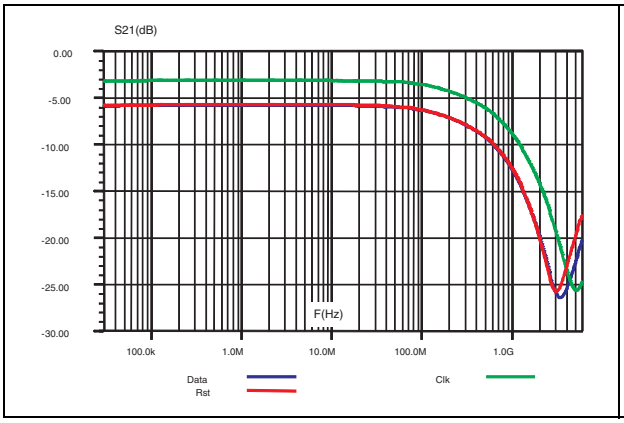


Figure 5. Attenuation measurements A1-C2

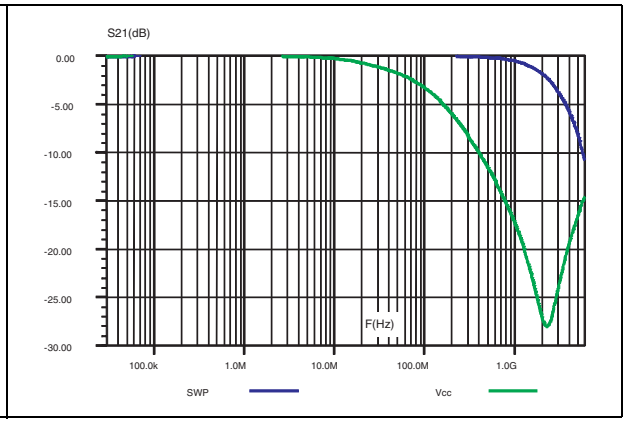


Figure 6. Analog Xtalk measurements

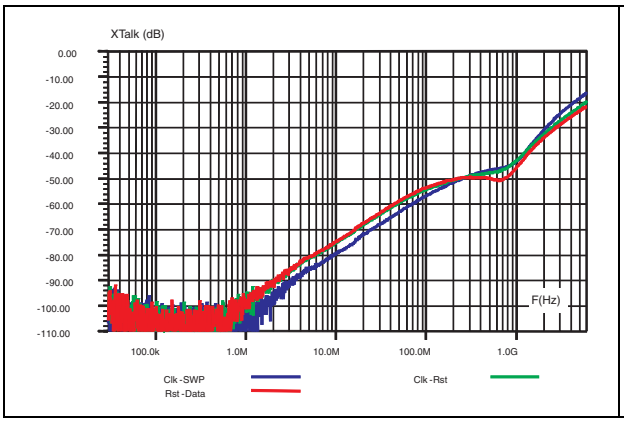


Figure 7. Digital crosstalk measurements

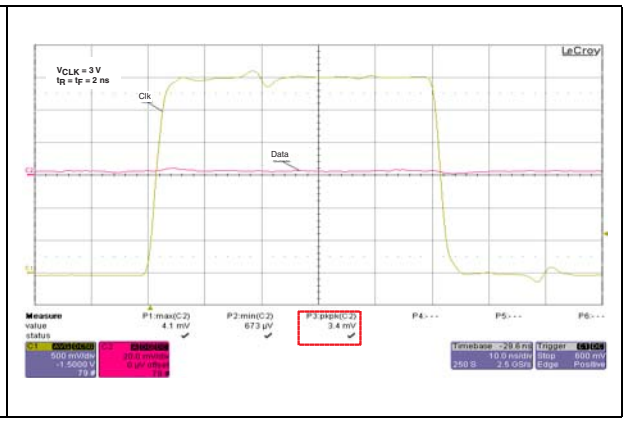


Figure 8. Dynamic characteristic (SWP)

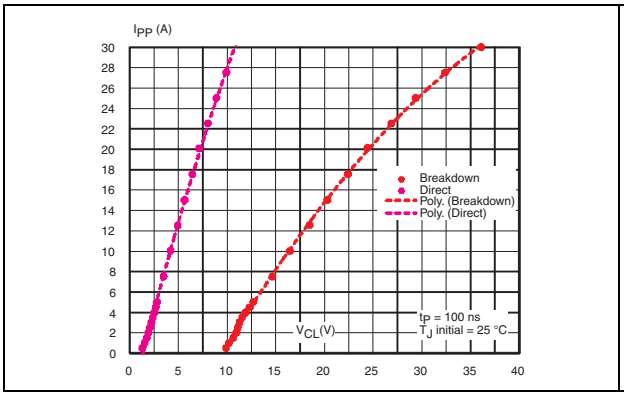


Figure 9. Dynamic characteristic (V_{CC})

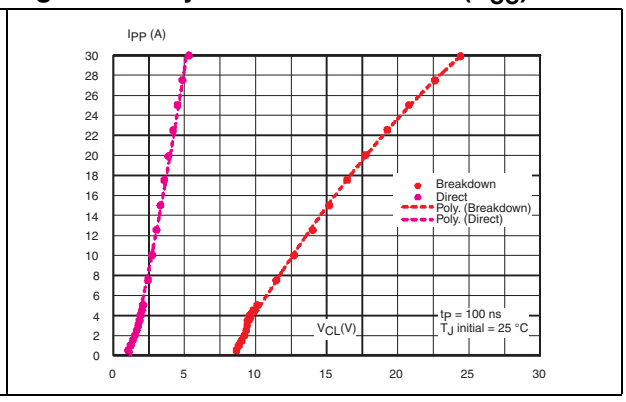


Figure 10. ESD response to IEC 61000-4-2 (+8 kV contact discharge) CLK line

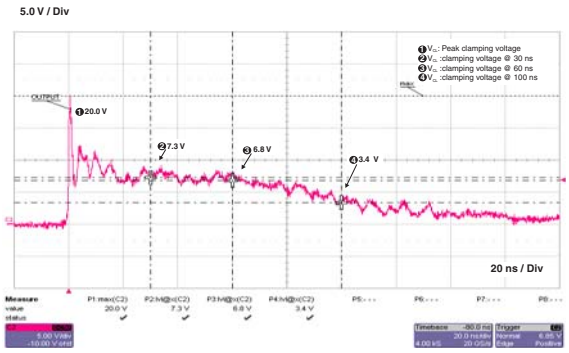


Figure 11. ESD response to IEC 61000-4-2 (-8 kV contact discharge) CLK line

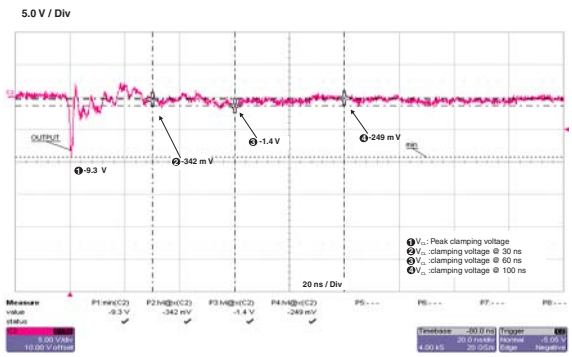


Figure 12. ESD response to IEC 61000-4-2 (+8 kV contact discharge) DATA line

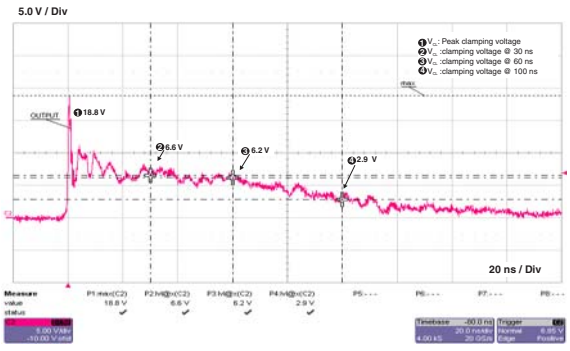


Figure 13. ESD response to IEC 61000-4-2 (-8 kV contact discharge) DATA line

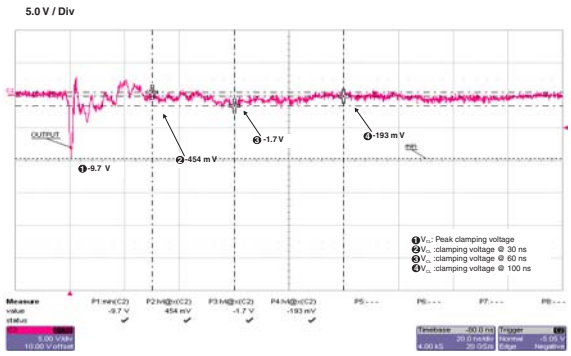


Figure 14. ESD response to IEC 61000-4-2 (+8 kV contact discharge) SWP line

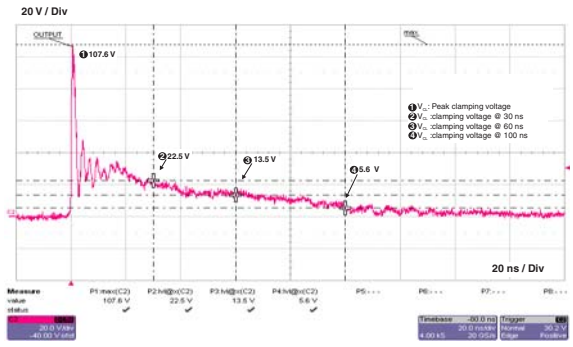


Figure 15. ESD response to IEC 61000-4-2 (-8 kV contact discharge) SWP line

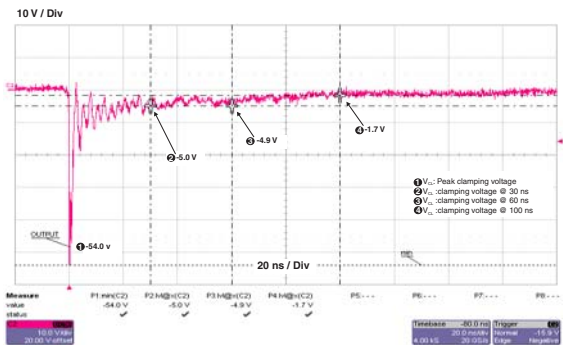


Figure 16. ESD response to IEC 61000-4-2 (+8 kV contact discharge) V_{CC} line

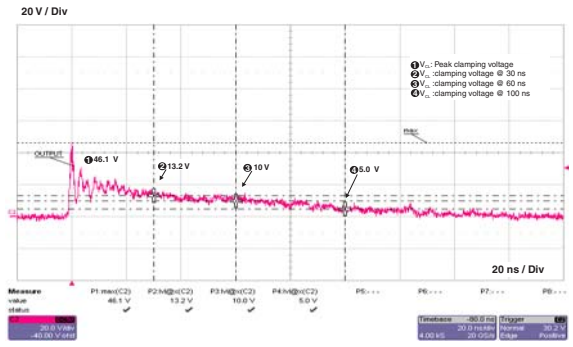
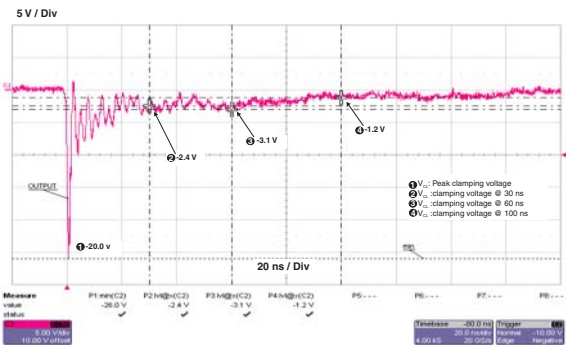
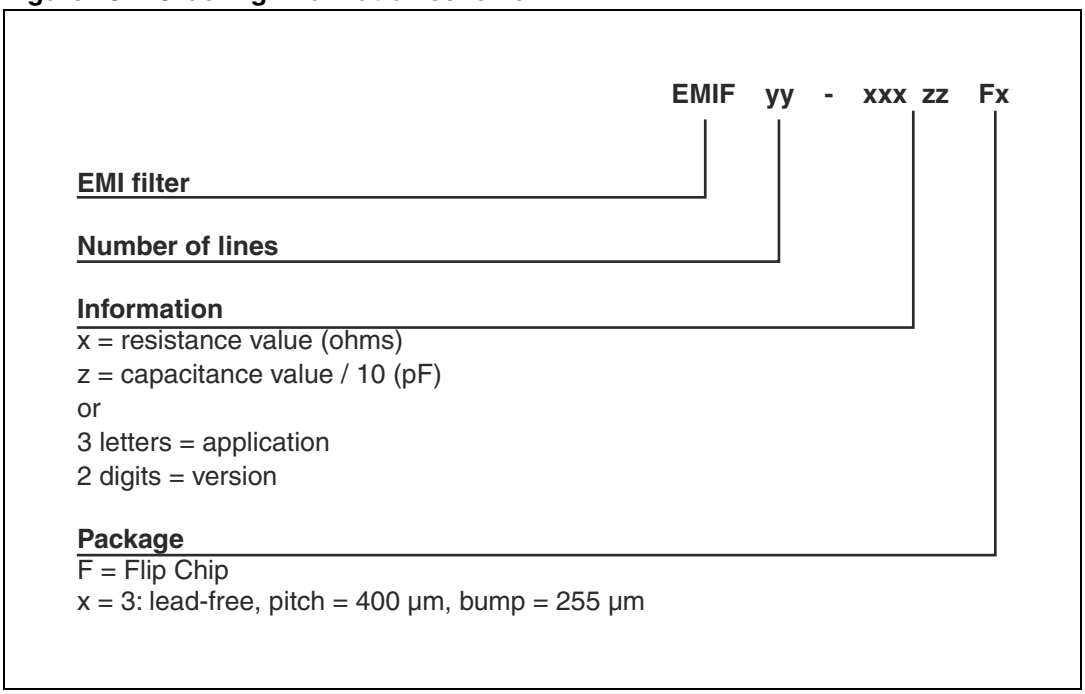


Figure 17. ESD response to IEC 61000-4-2 (-8 kV contact discharge) V_{CC} line



2 Ordering information scheme

Figure 18. 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. ECOPACK® is an ST trademark.

Figure 19. WLCSP package dimensions

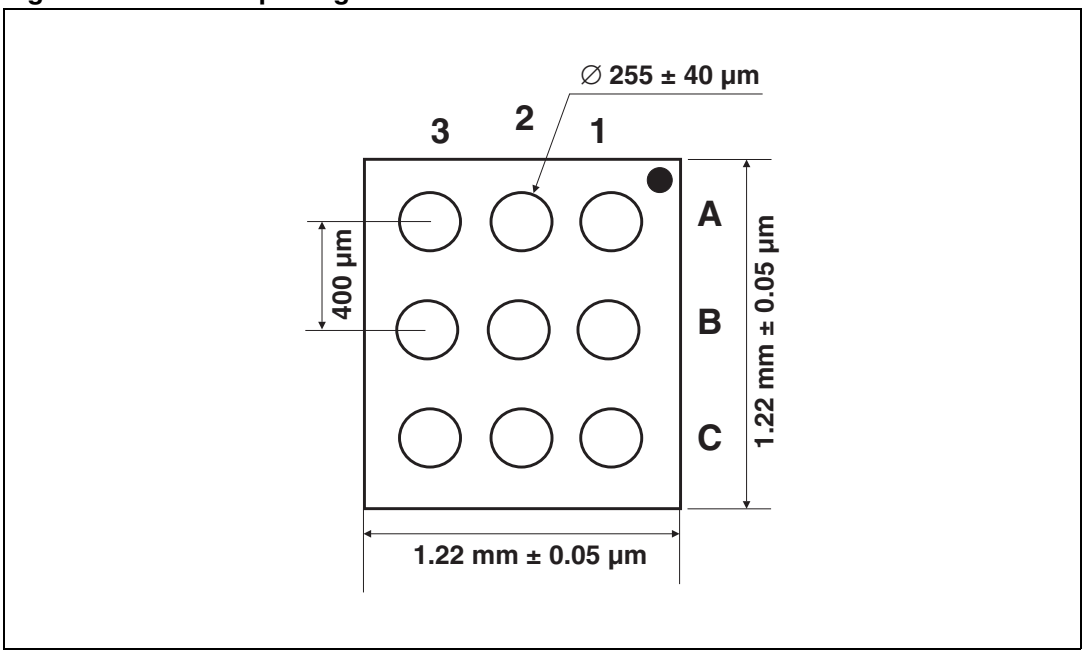


Figure 20. Footprint recommendations

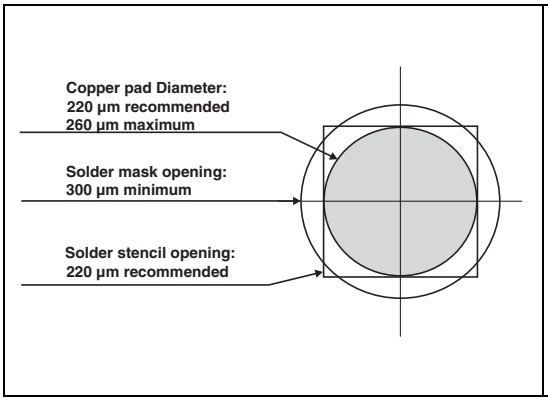


Figure 21. Marking

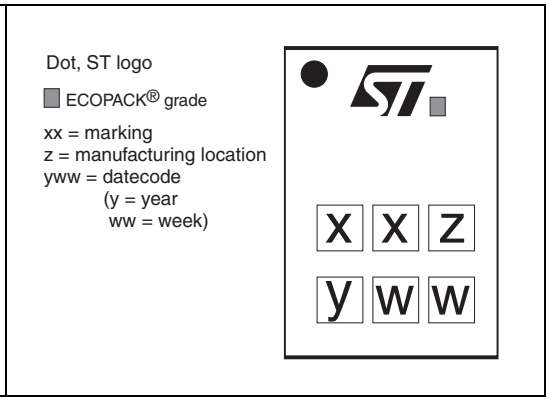
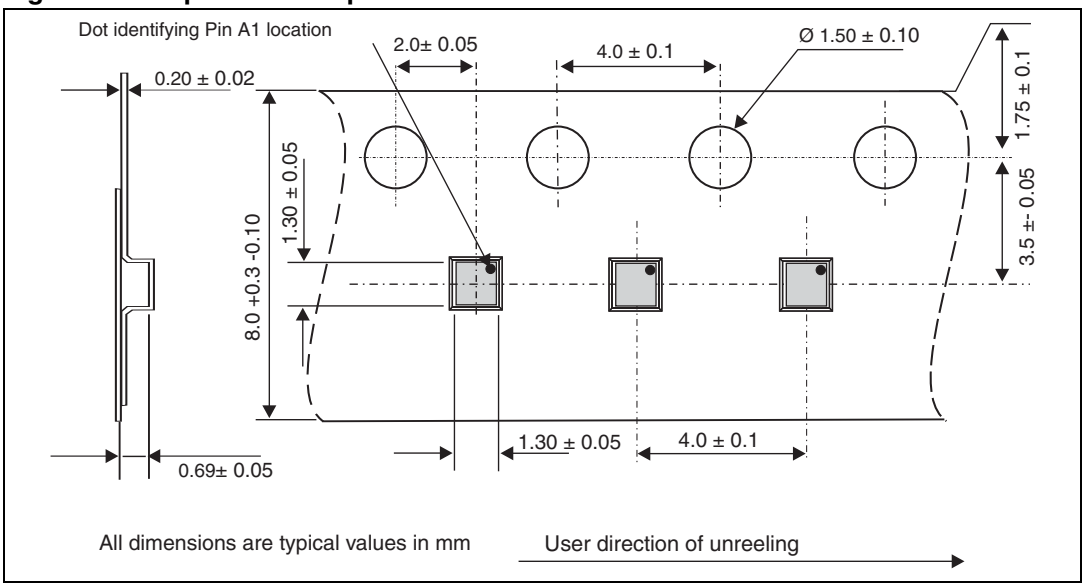


Figure 22. Tape and reel specification



Note: More information is available in the application notes:
AN2348, "IPAD™ 400 µm Flip Chip: package description and recommendations for use"
AN1751, "EMI filters: recommendations and measurements"

4 Ordering information

Table 3. Ordering information

Order code	Marking	Package	Weight	Base qty	Delivery mode
EMIF03-SIM05F3	LB	WLCSP	1.9 mg	5000	Tape and reel (7")

5 Revision history

Table 4. Document revision history

Date	Revision	Changes
12-Nov-2012	1	Initial release.

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