1 Characteristics

Table 1. Absolute ratings (limiting values)

Symbol	Parameter	Value	Unit
T_j	Maximum junction temperature	125	°C
T_{op}	Operating temperature range	-40 to +85	°C
T_{stg}	Storage temperature range	-55 to +150	°C

Figure 3. Electrical characteristics (definitions)

Symbol		Parameter
V_{BR}	=	Breakdown voltage
I_{RM}	=	Leakage current @ V_{RM}
V_{RM}	=	Stand-off voltage
V_{CL}	=	Clamping voltage
R_D	=	Dynamic impedance
I_{PP}	=	Peak pulse current
I_R	=	Breakdown current
V_F	=	Forward voltage drop
C_{line}	=	Line capacitance

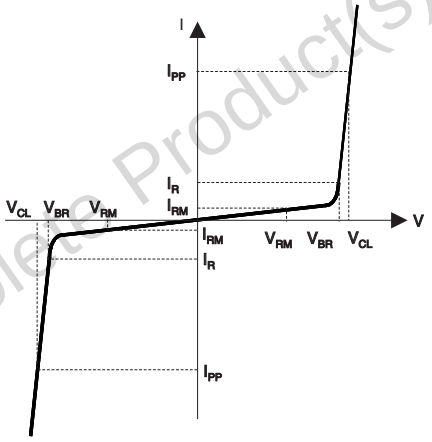


Table 2. Electrical characteristics (T_{amb} = 25 °C)

Symbol	Test conditions	Min.	Typ.	Max.	Unit
V_{BR}	I_R = 1 mA	6	8		V
I_{RM}	V_{RM} = 3 V per line			500	nA
$R_{I/O}$	Tolerance ± 20%		10		Ω
C_{line}	V_R = 0 V		200		pF

Figure 4. S21 (dB) attenuation measurement

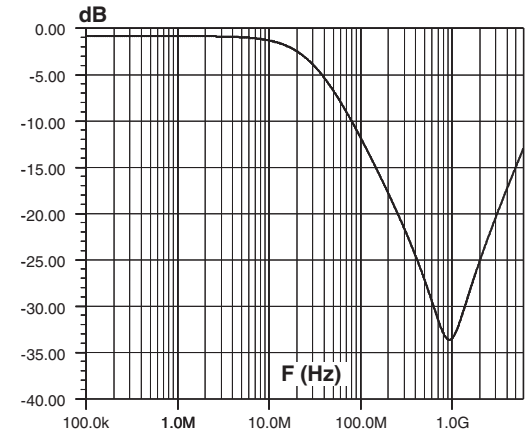


Figure 5. Analog crosstalk measurement

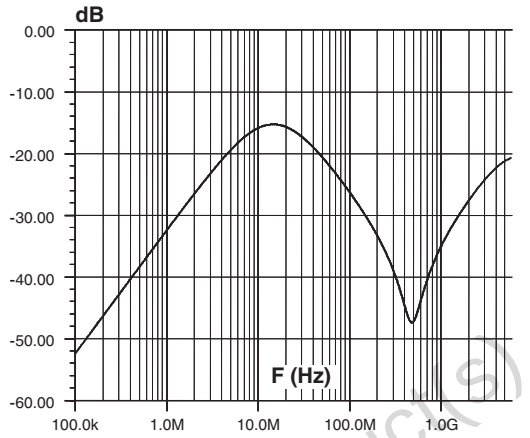


Figure 6. ESD response to IEC 61000-4-2 (+15 kV air discharge) on one input V_{in} and one output V_{out}

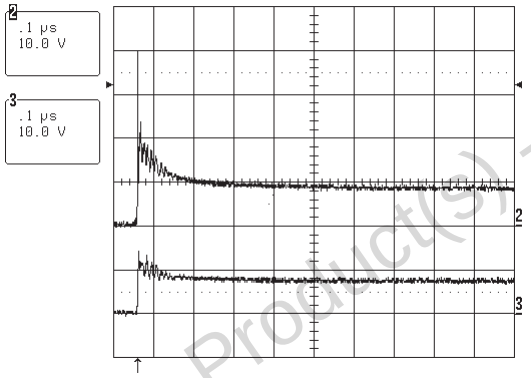


Figure 7. ESD response to IEC 61000-4-2 (- 15 kV air discharge) on one input V_{in} and one output V_{out}

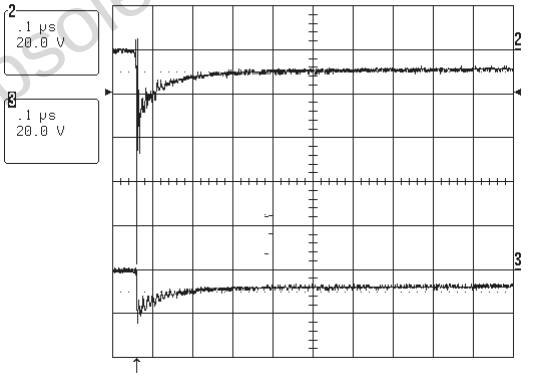


Figure 8. Line capacitance versus applied voltage

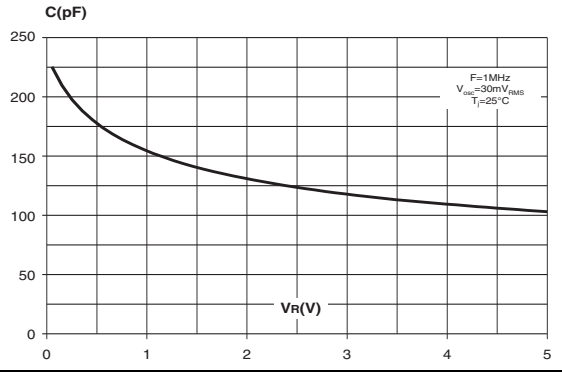


Figure 9. Aplac model

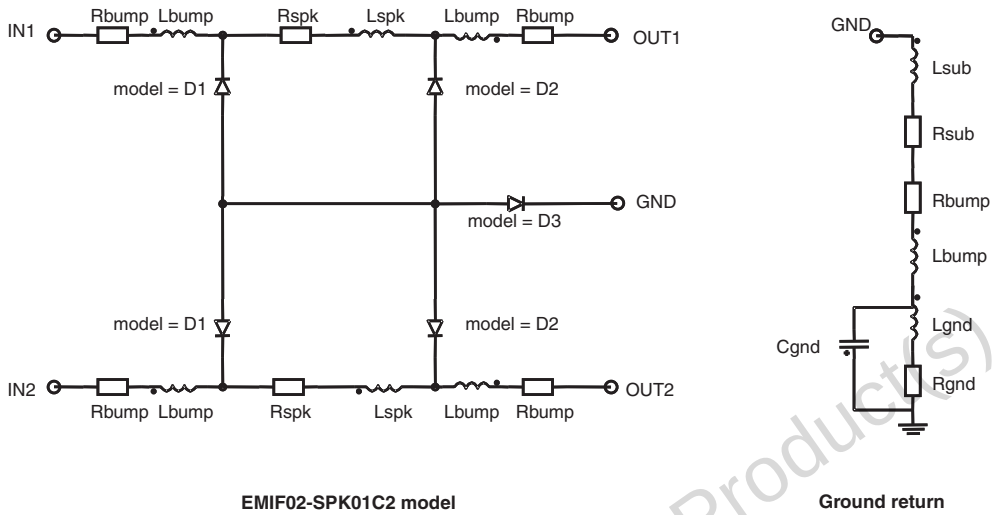


Figure 10. Aplac parameters

Model D1	Model D3	Model D2	
CJO=Cdiode1	CJO=Cdiode3	CJO=Cdiode2	aplacvar Ls 1nH
BV=7	BV=7	BV=7	aplacvar Rs 150m
IBV=1u	IBV=1u	IBV=1u	aplacvar Rspk 10
IKF=1000	IKF=1000	IKF=1000	aplacvar Lspk 10p
IS=10f	IS=10f	IS=10f	aplacvar Cdiode1 234pF
ISR=100p	ISR=100p	ISR=100p	aplacvar Cdiode2 3.5ppF
N=1	N=1	N=1	aplacvar Cdiode3 1nF
M=0.3333	M=0.3333	M=0.3333	aplacvar Lbump 50pH
RS=0.7	RS=0.12	RS=0.3	aplacvar Rbump 10m
VJ=0.6	VJ=0.6	VJ=0.6	aplacvar Rsub 0.5m
TT=50n	TT=50n	TT=50n	aplacvar Lsub 10pH
			aplacvar Rgnd 1m
			aplacvar Lgnd 50pH
			aplacvar Cgnd 0.15pF

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 Flip-Chip package information

Figure 11. Flip-Chip package outline

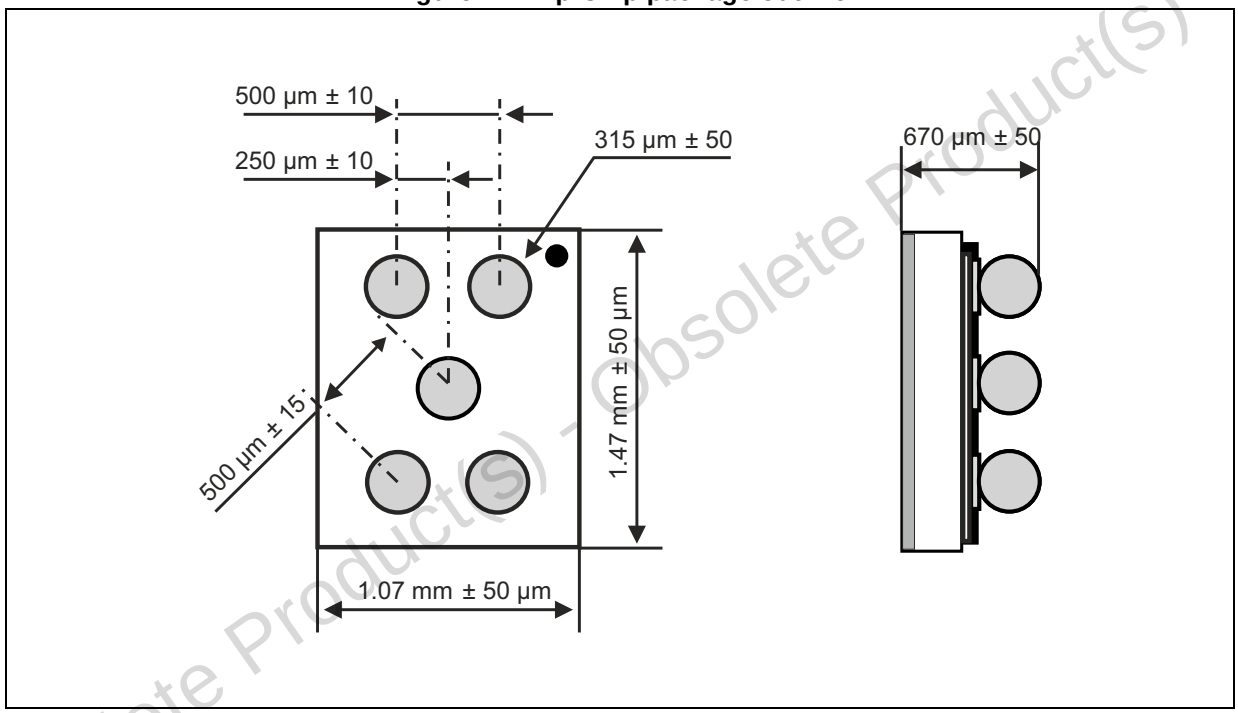


Figure 12. Marking

Dot, ST logo
xx = marking
z = manufacturing location
yww = datecode
(y = year ww = week)

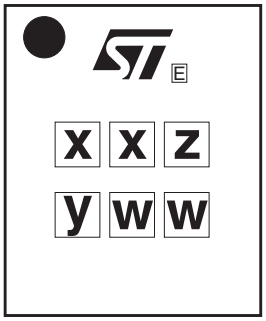
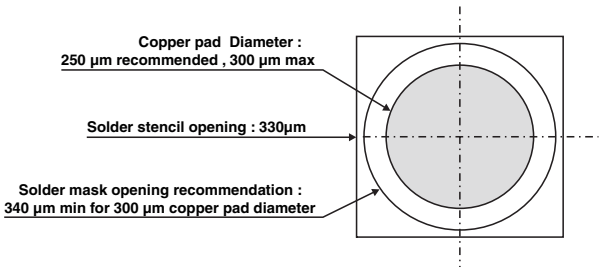
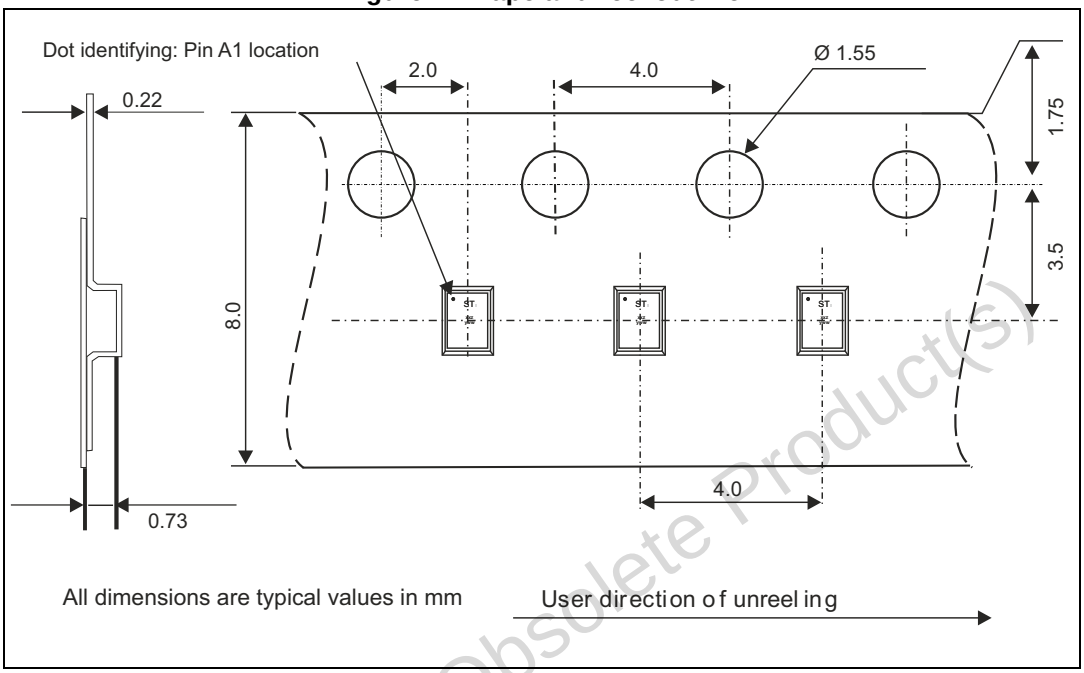


Figure 13. Footprint



2.2 Packing information

Figure 14. Tape and reel outline



3 Ordering information

Figure 15. Ordering information scheme

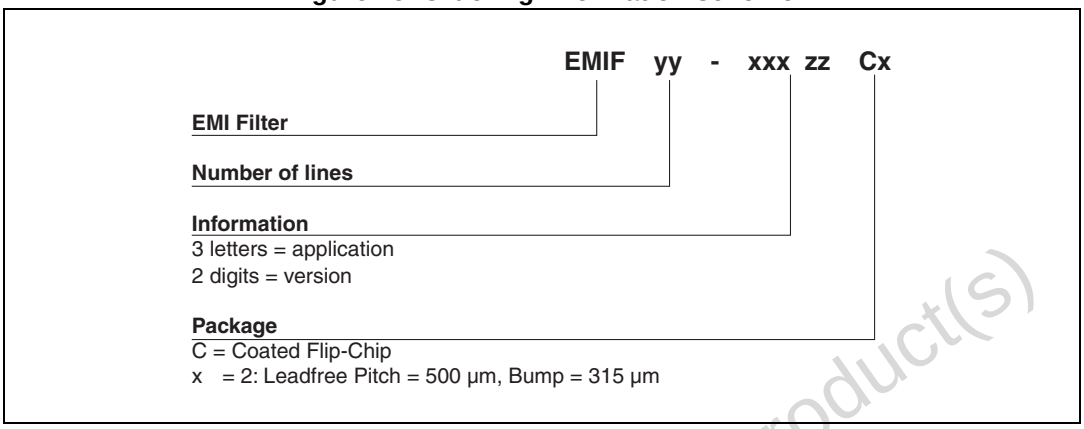


Table 3. Ordering information

Order code	Marking	Package	Weight	Base qty	Delivery mode
EMIF02-SPK01C2	FX	Flip Chip	2.3 mg	5000	Tape and reel 7”

4 Revision history

Table 4. Document revision history

Date	Revision	Changes
26-Jan-2006	1	Initial release.
22-May-2013	2	Updated Figure 13.
02-Nov-2015	3	Updated *Features* and *Flip-Chip package outline*.

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