

# 1 Electrical characteristics

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

Symbol	Parameter	Value	Unit
$T_j$	junction temperature	125	$^{\circ}\text{C}$
$T_{op}$	Operating temperature range	-40 to +85	$^{\circ}\text{C}$
$T_{stg}$	Storage temperature range	-55 to 150	$^{\circ}\text{C}$

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

Symbol	Parameters								
$V_{BR}$	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								
$R_{I/O}$	Series resistance between input and output								
$C_{line}$	Input capacitance per line								
Symbol	Test conditions					Min.	Typ.	Max.	Unit
$V_{BR}$	$I_R = 1\text{ mA}$					14	16		V
$I_{RM}$	$V_{RM} = 12\text{ V per line}$			500	nA				
$R_{I/O}$		423	470	517	$\Omega$				
$C_{line}$	@ 0 V		16	20	pF				

Figure 3. Attenuation measurement and Aplac simulation

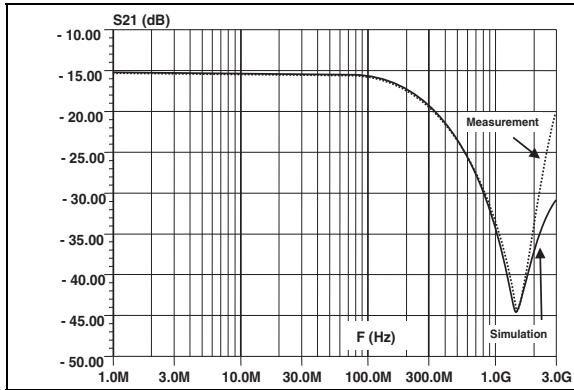


Figure 4. Analog crosstalk measurements

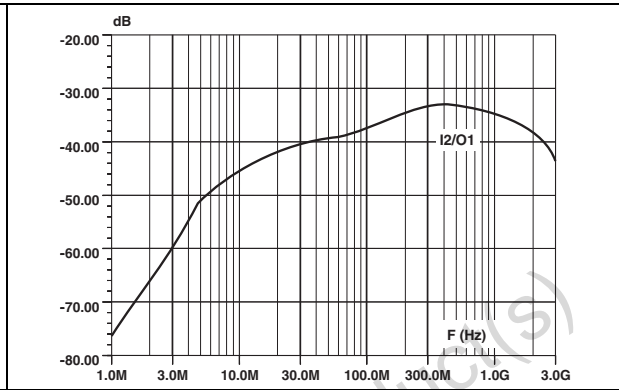


Figure 5. Digital crosstalk measurement

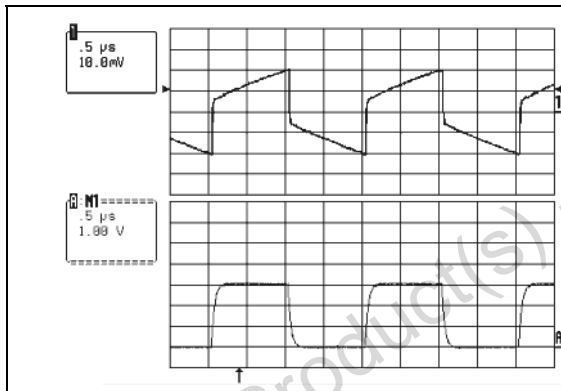


Figure 6. ESD response to IEC61000-4-2 (-15 kV air discharge) on one input V(in) and on one output V(out)

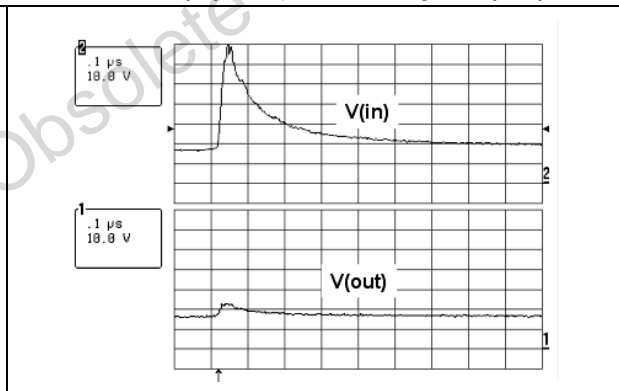


Figure 7. ESD response to IEC61000-4-2 (+15 kV air discharge) on one input V(in) and on one output V(out)

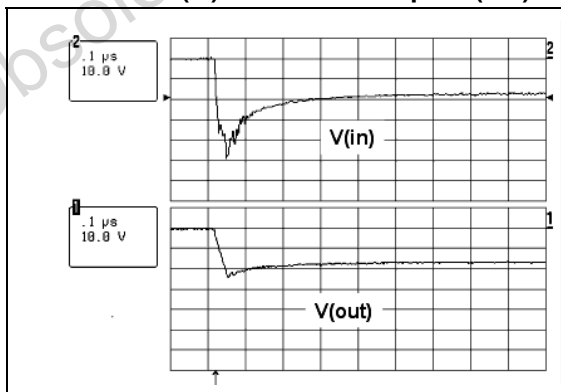
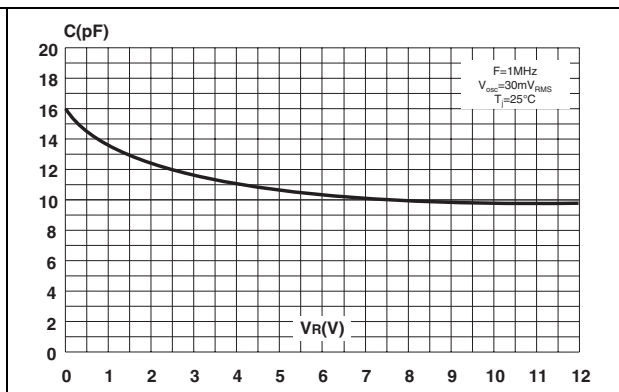


Figure 8. Line capacitance versus applied voltage



## 2 Application information

Figure 9. Aplac model

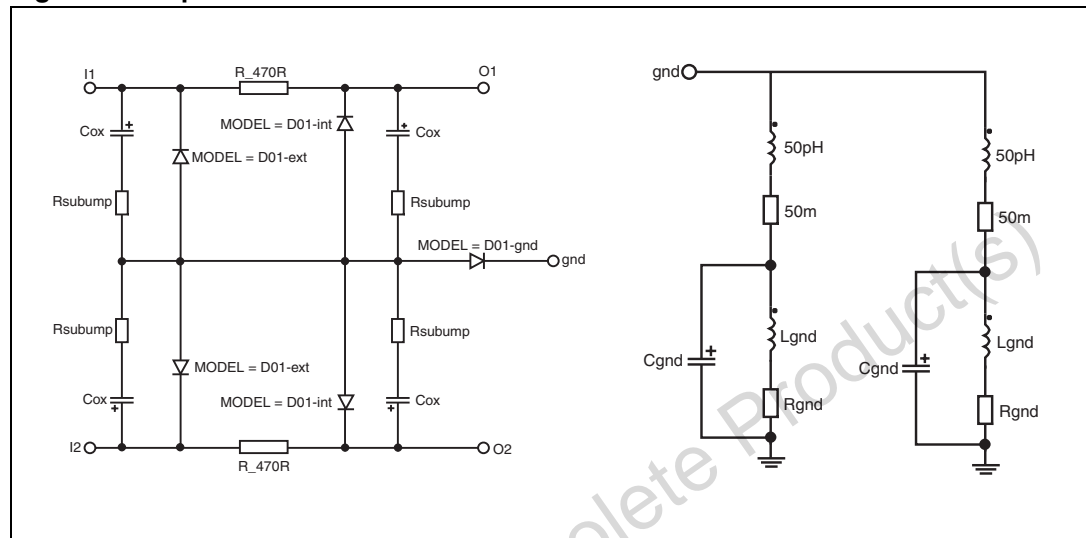
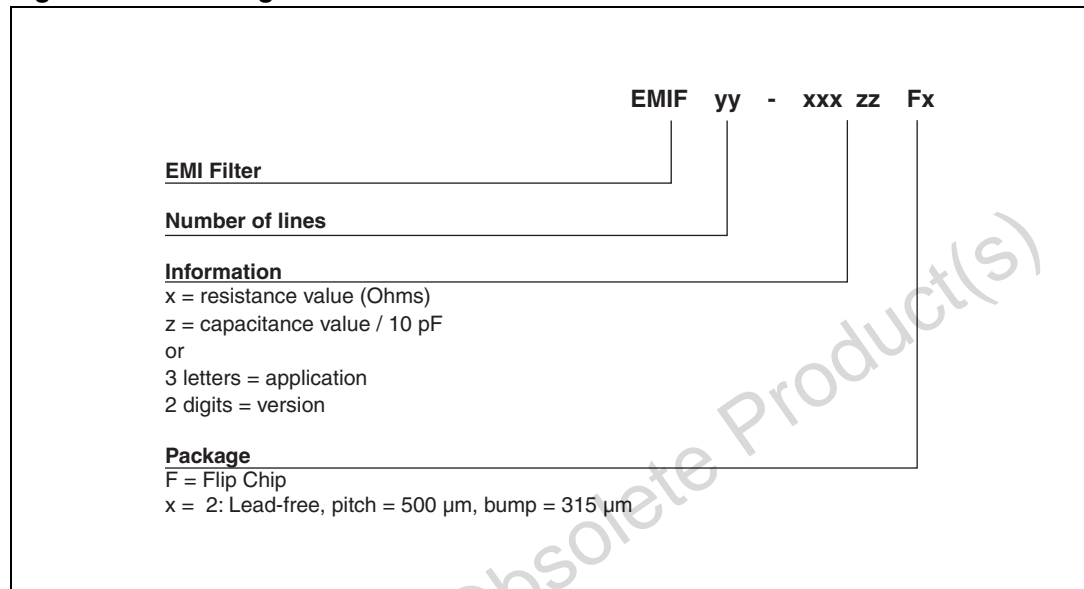


Figure 10. Aplac parameters

Model D01-ext	Model D01-int	Model D01-gnd	Ls 400pH
BV = 7	BV = 7	BV = 7	Rs 100m
CJO = Cz_ext	CJO = Cz_int	CJO = Cz_gnd	
IBV = 1u	IBV = 1u	IBV = 1u	R_470R 482.6
IKF = 1000	IKF = 1000	IKF = 1000	Cz_ext 8.73pF
IS = 10f	IS = 10f	IS = 10f	Rs_ext 850m
ISR = 100p	ISR = 100p	ISR = 100p	Cz_int 2.9pF
N = 1	N = 1	N = 1	Rs_int 850m
M = 0.3333	M = 0.3333	M = 0.3333	Cz_gnd 215.61pF
RS = Rs_ext	RS = Rs_int	RS = Rs_gnd	Rs_gnd 470m
VJ = 0.6	VJ = 0.6	VJ = 0.6	
TT = 50n	TT = 50n	TT = 50n	Rgnd 10m
			Lgnd 48pH
			Cgnd 0.15pF
			Cox 3.05pF
			Rsubump 200m

### 3 Ordering information scheme

Figure 11. Ordering information scheme



### 4 Package information

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

Figure 12. Package dimensions

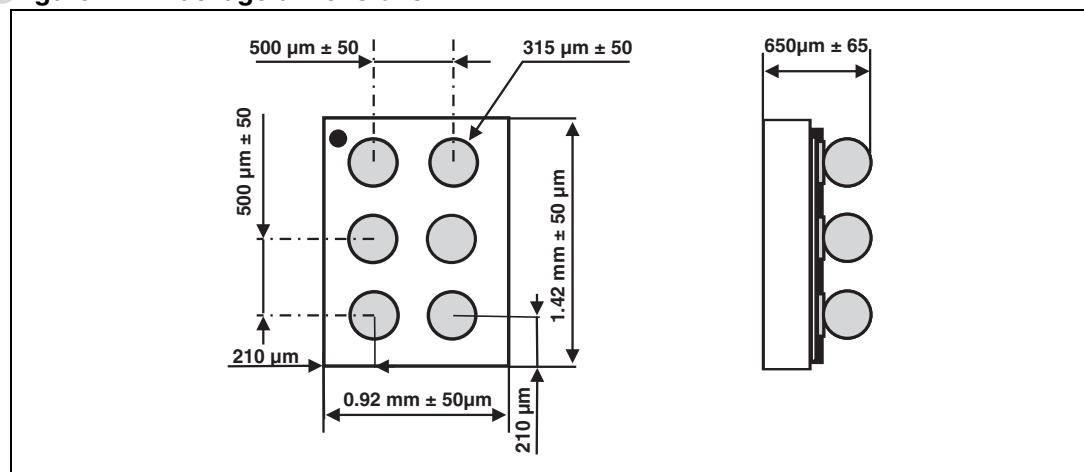


Figure 13. Footprint

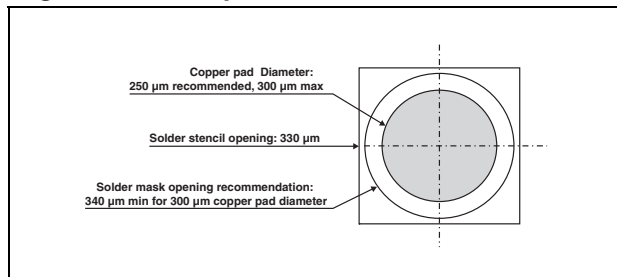


Figure 14. Marking

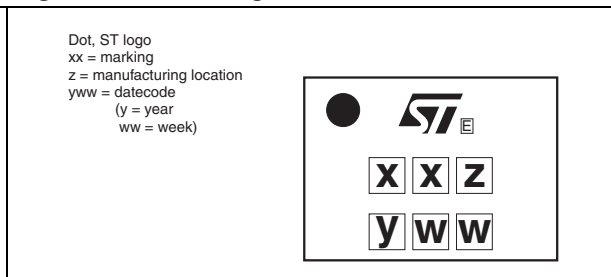
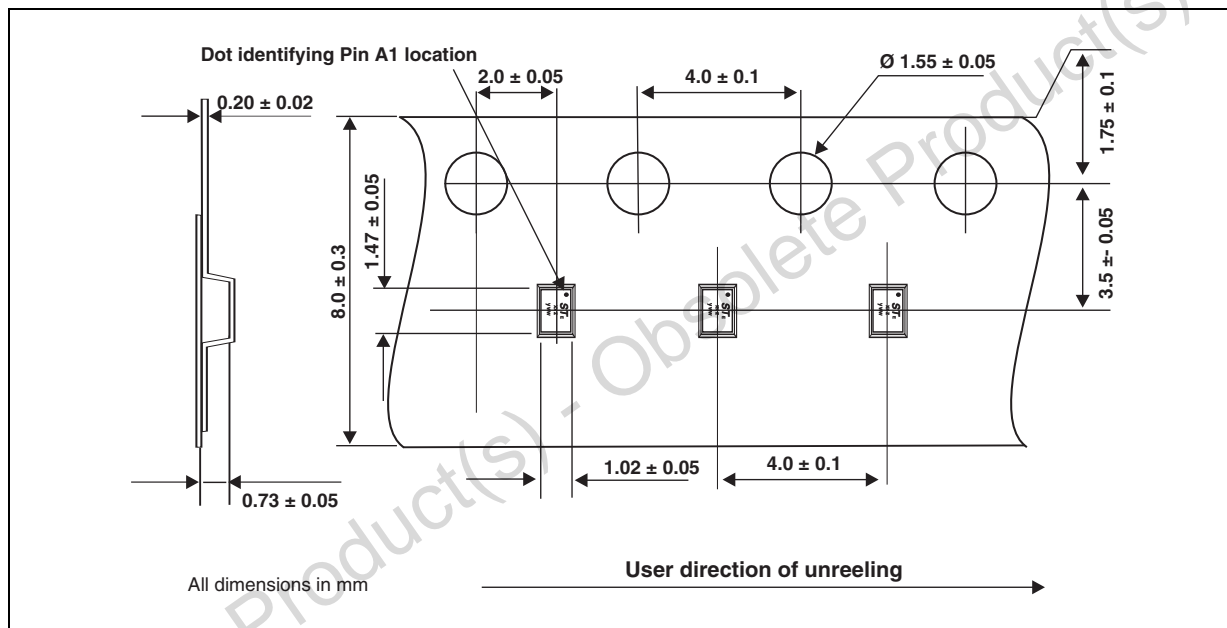


Figure 15. Flip Chip tape and reel specification



## 5 Ordering information

Table 3. Ordering information

Order code	Marking	Package	Weight	Base qty	Delivery mode
EMIF02-MIC02F2	FJ	Flip Chip	2.3 mg	5000	Tape and reel 7"

Note:

More information is available in the application notes:  
AN1235: "Flip Chip: Package description and recommendations for use"  
AN1751: "EMI filters: Recommendations and measurements"

## 6 Revision history

**Table 4. Document revision history**

Date	Revision	Changes
12-Oct-2004	1	Initial release.
11-Jan-2006	2	ECOPACK statement added. Die dimensions modified in <a href="#">Figure 12</a> . and first page. Typographical errors corrected.
17-Apr-2008	3	Updated ECOPACK statement. Updated <a href="#">Figure 11</a> , <a href="#">Figure 12</a> and <a href="#">Figure 15</a> . Reformatted to current standards.
26-May-2011	4	Updated C <sub>line</sub> values in <a href="#">Table 2</a> .

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