



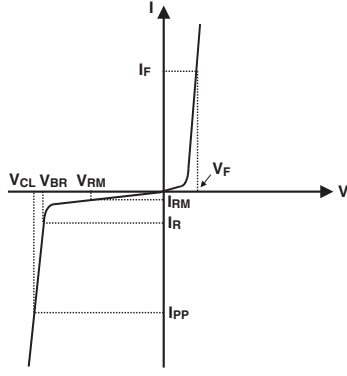
# 1 Characteristics

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

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

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

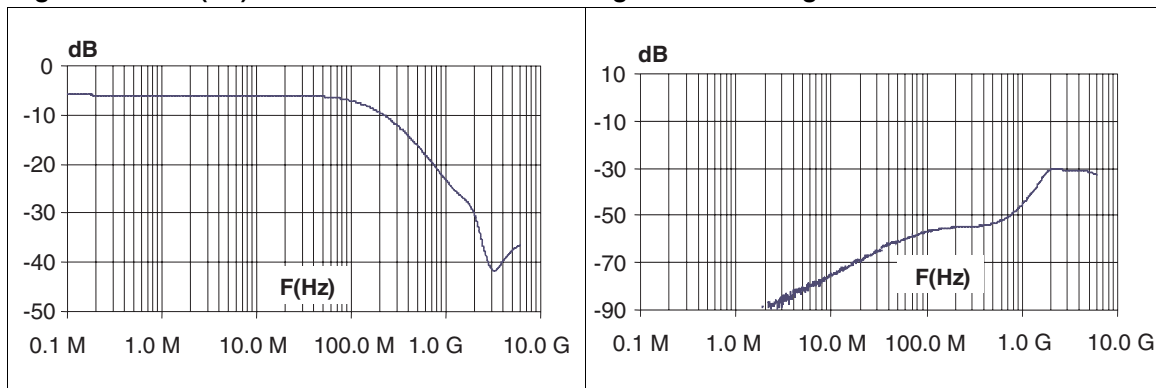
Symbol	Parameter
$V_{BR}$	Breakdown voltage
$I_{RM}$	Leakage current @ $V_{RM}$
$V_{RM}$	Stand-off voltage
$V_{CL}$	Clamping voltage
$R_d$	Dynamic resistance
$I_{PP}$	Peak pulse current
$R_{I/O}$	Series resistance between Input and Output
$C_{line}$	Input capacitance per line



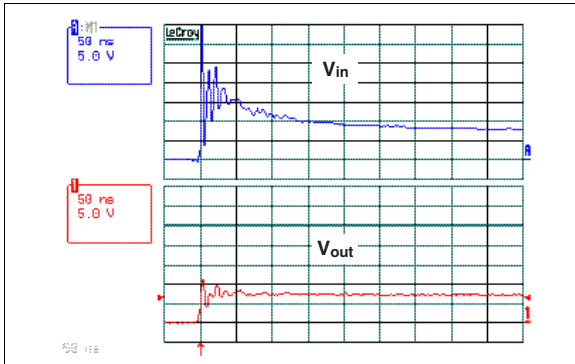
Symbol	Test conditions	Min.	Typ.	Max.	Unit
$V_{BR}$	$I_R = 1 \text{ mA}$	6	8	10	V
$I_{RM}$	$V_{RM} = 3 \text{ V}$			500	nA
$R_{I/O}$		90	100	110	$\Omega$
$C_{line}$	@ 0 V bias		28	35	pF
Rt / Ft	Induced rise and fall time 10-90% at 26 MHz frequency signal V = 1.9 V (Rt / Ft input 1 ns, 50 $\Omega$ impedance generator)		8 <sup>(1)</sup>		ns

1. guaranteed by design

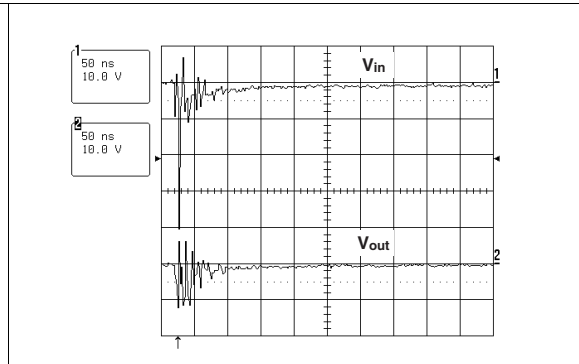
**Figure 3. S21(dB) attenuation measurement**      **Figure 4. Analog cross talk measurement**



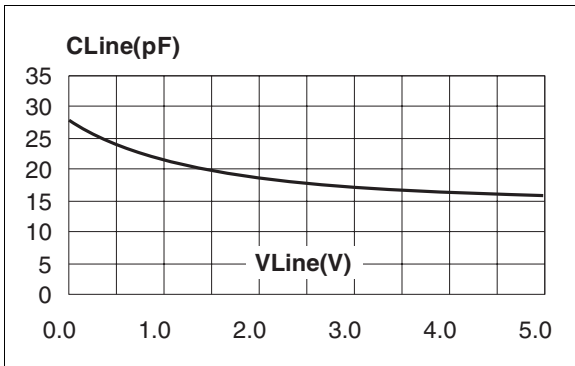
**Figure 5. ESD response to IEC 61000-4-2 (+15 kV air discharge) on one input and on one output**



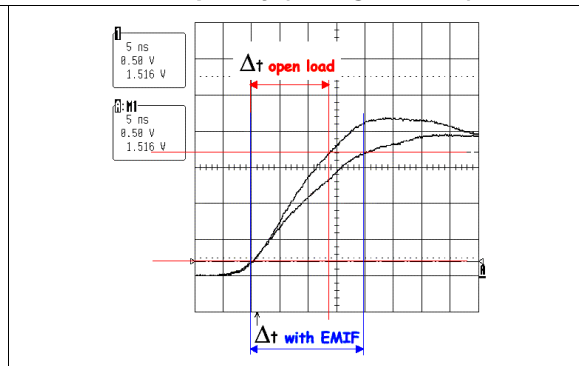
**Figure 6. ESD response to IEC 61000-4-2 (-15 kV air discharge) on one input and on one output**



**Figure 7. Line capacitance versus applied voltage**



**Figure 8. Rise time 10-90% measurements with 1.9 V signal at 26 MHz frequency (50 Ω generator)**



**Figure 9. Fall time 10-90% measurements with 1.9 V signal at 26 MHz frequency (50 Ω generator)**

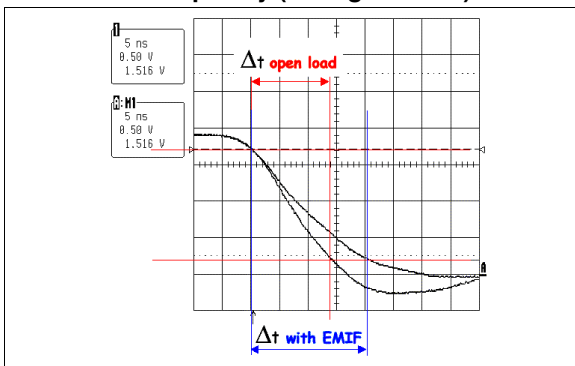


Figure 10. Aplac model

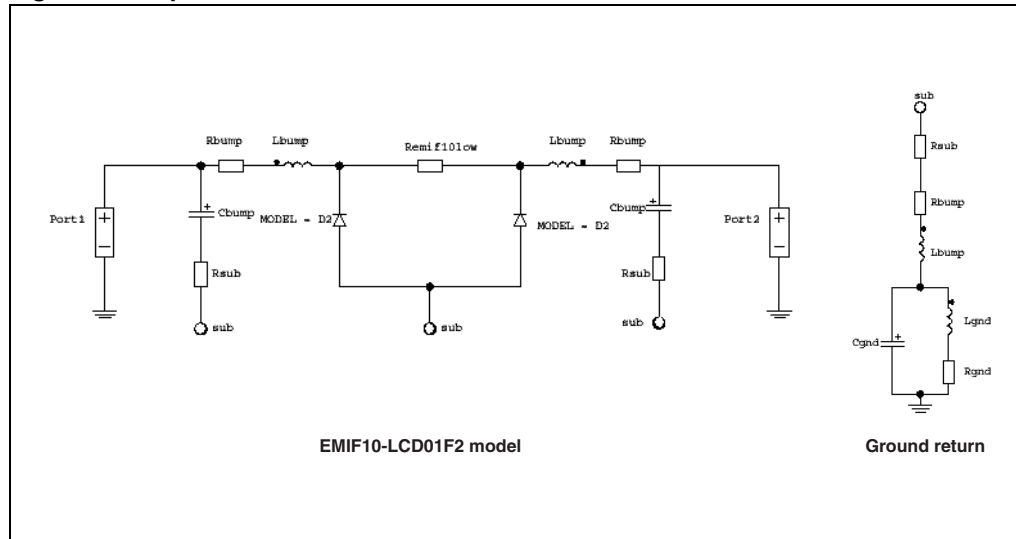
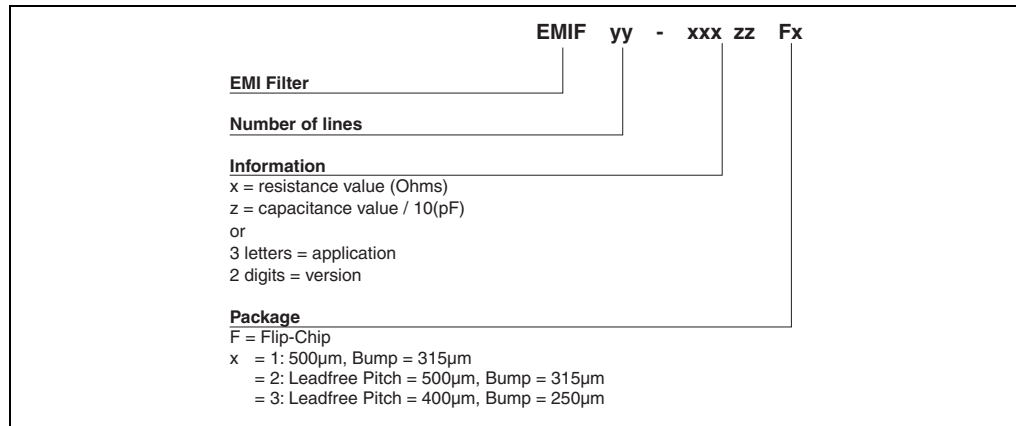


Figure 11. Aplac parametersl

ZRZ structure	
aplacvar Remif10low 100	BV = 7
aplacvar Cemif10flow 17.5pF	CJO = Cemif10low
Bumps	IBV = 1u
aplacvar Lbump 50pH	IKF = 1000
aplacvar Rbump 20m	IS = 10f
aplacvar Cbump 1.5pF	ISR = 100p
Bulk	N = 1
aplacvar Rsub 100m	M = 0.3333
Gnd connections	RS = 0.015
aplacvar Rgnd 100m	VJ = 0.6
aplacvar Lgnd 200pH	TT = 50n
aplacvar Cgnd 0.15pF	

## 2 Ordering information scheme



## 3 Package information

Figure 12. Flip-Chip Dimensions

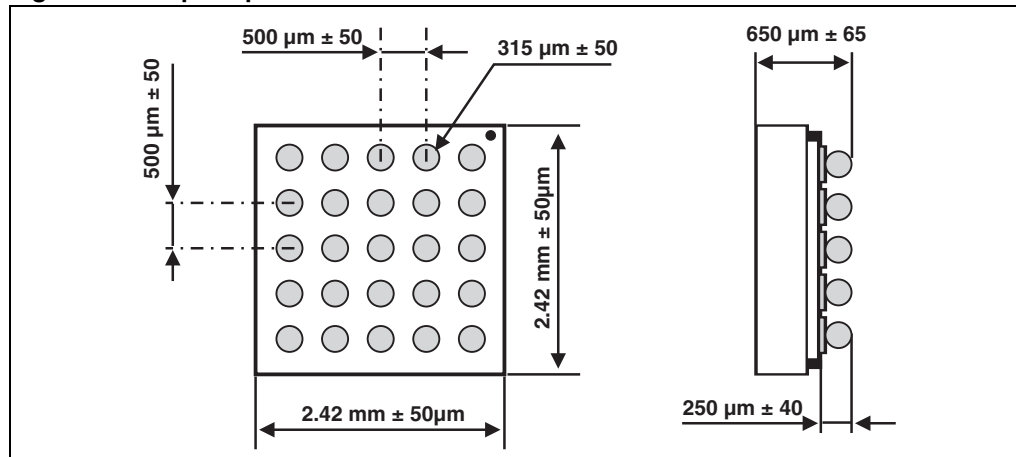


Figure 13. Marking

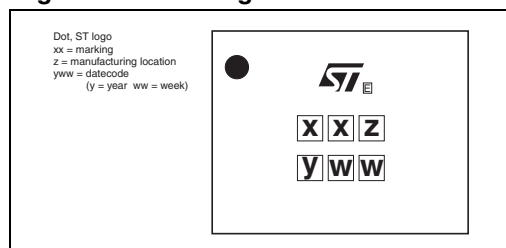
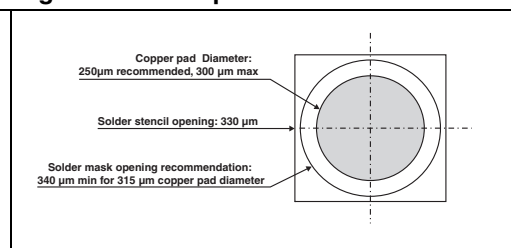


Figure 14. Footprint recommendation





## 5 Revision history

Date	Revision	Changes
14-Feb-2005	1	Initial release.
17-Mar-2005	2	Capacitance $C_{line}$ specification changed from 47 pF (typ) to 28 pF (typ) and 35 pF (max).
30-Jan-2007	3	Reformatted to current standards. Reduced die size and updated Figures 3 and 4.

**Please Read Carefully:**

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

**UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.**

**UNLESS EXPRESSLY APPROVED IN WRITING BY AN AUTHORIZED ST REPRESENTATIVE, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.**

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2007 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

[www.st.com](http://www.st.com)