

1 Electrical characteristics

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

| Symbol | Parameter | Value | Unit |
|--------|------------------------------|-------------|--------------------|
| Tj | Maximum junction temperature | 125 | $^{\circ}\text{C}$ |
| Top | Operating temperature range | -40 to +85 | $^{\circ}\text{C}$ |
| Tstg | 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 & Output |
| C_{line} | Input capacitance per line |

Table 3.

| Symbol | Test condition | Min | Typ | Max | Unit |
|------------|--------------------------------|-----|-----|-----|----------|
| V_{BR} | $I_R = 1\text{ mA}$ | 6 | 8 | | V |
| I_{RM} | $V_{RM} = 3\text{ V per line}$ | | | 500 | nA |
| $R_{I/O}$ | Tolerance $\pm 20\%$ | | 68 | | Ω |
| C_{line} | $V_R = 0\text{ V}$ | | 100 | | pF |

Figure 2. Attenuation simulation with 1 kΩ input and 10 kΩ output

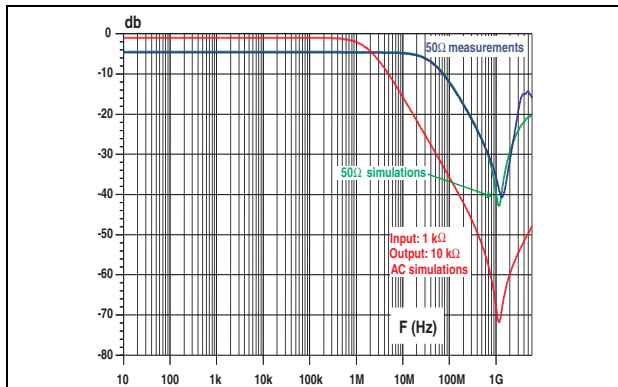


Figure 3. Analog crosstalk measurements

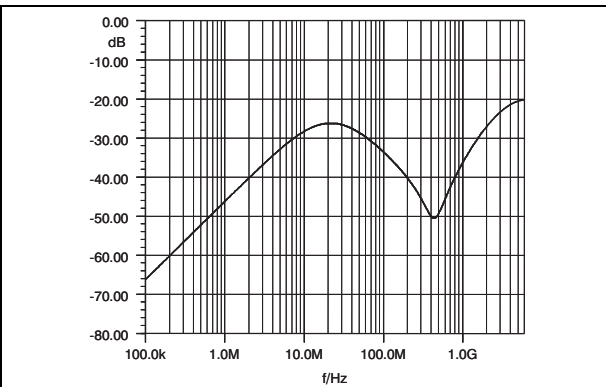


Figure 4. ESD response to IEC61000-4-2 (+15kV air discharge) on one input V(in) and one output V(out)

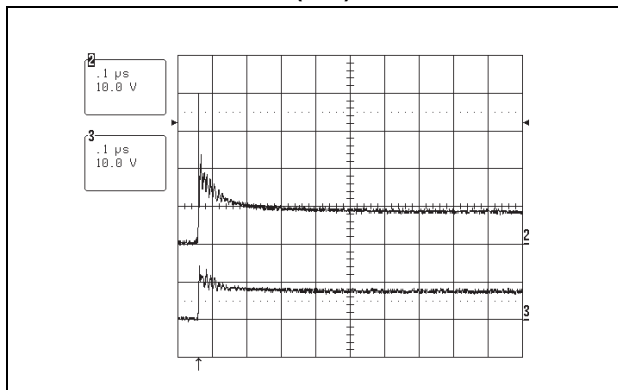


Figure 5. ESD response to IEC61000-4-2 (-15kV air discharge) on one input V(in) and one output V(out)

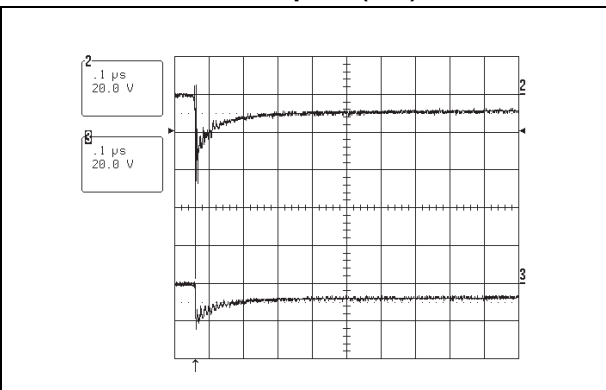


Figure 6. Line capacitance versus applied voltage.

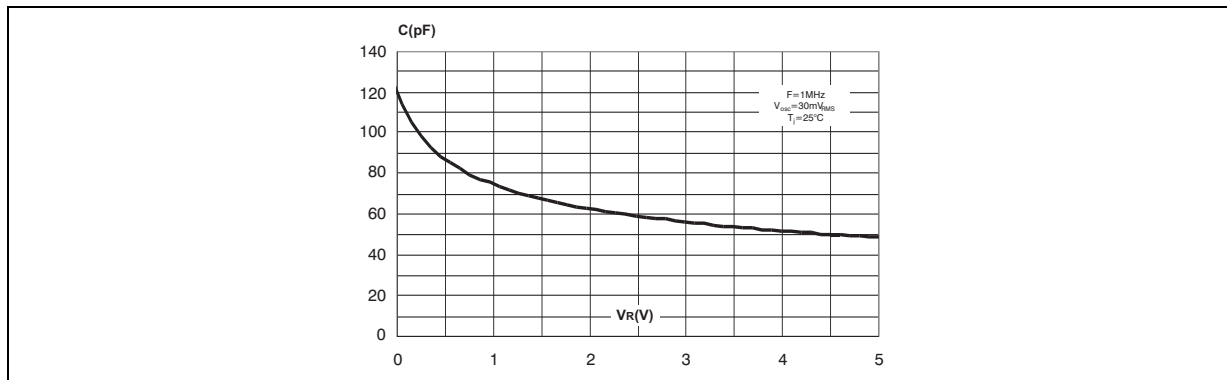


Figure 7. Aplac mode

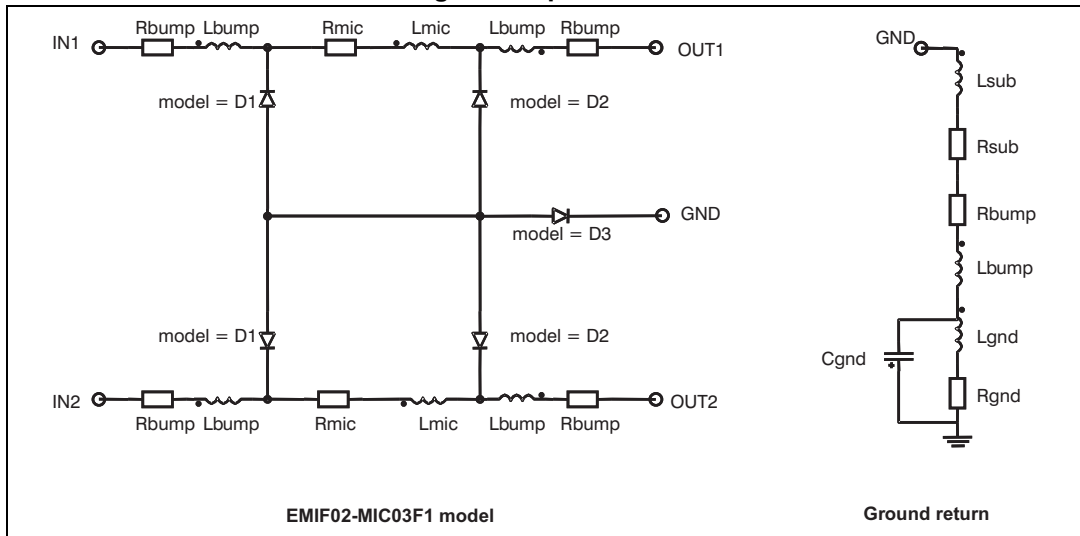
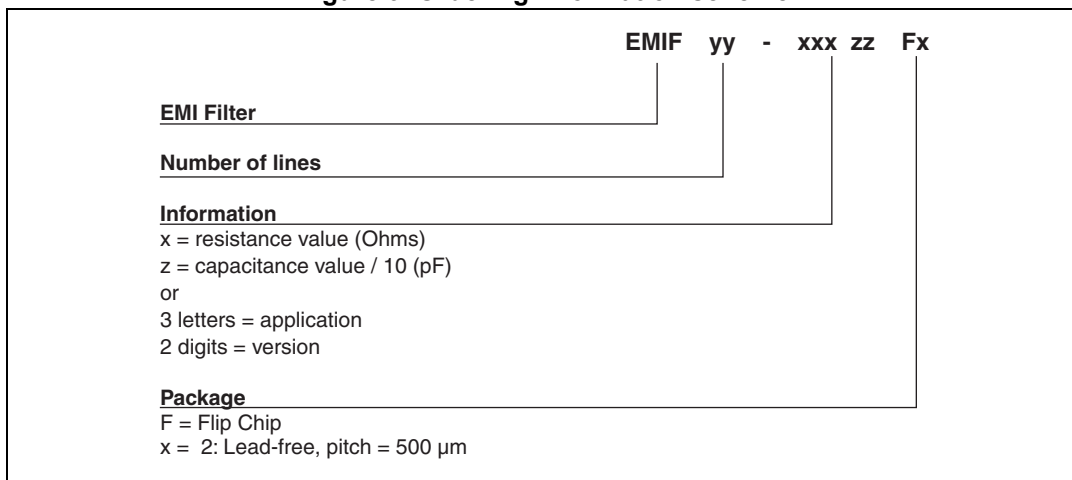


Figure 8. Aplac parameters

| | | | |
|-------------|-------------|-------------|------------------------|
| Model D1 | Model D3 | Model D2 | aplacvar Rmic 68 |
| CJO=Cdiode1 | CJO=Cdiode3 | CJO=Cdiode2 | aplacvar Lmic 10p |
| BV=7 | BV=7 | BV=7 | aplacvar Cdiode1 100pF |
| IBV=1u | IBV=1u | IBV=1u | aplacvar Cdiode2 3.6pF |
| IKF=1000 | IKF=1000 | IKF=1000 | aplacvar Cdiode3 |
| IS=10f | IS=10f | IS=10f | 1.17nF |
| ISR=100p | ISR=100p | ISR=100p | aplacvar Lbump 50pH |
| N=1 | N=1 | N=1 | aplacvar Rbump 20m |
| M=0.3333 | M=0.3333 | M=0.3333 | aplacvar Rsub 0.5m |
| RS=0.7 | RS=0.12 | RS=0.3 | aplacvar Rgnd 10m |
| VJ=0.6 | VJ=0.6 | VJ=0.6 | aplacvar Lgnd 50pH |
| TT=50n | TT=50n | TT=50n | aplacvar Cgnd 0.15pF |
| | | | aplacvar Lsub 10pH |

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. ECOPACK® is an ST trademark.

Figure 10. Flip Chip dimensions

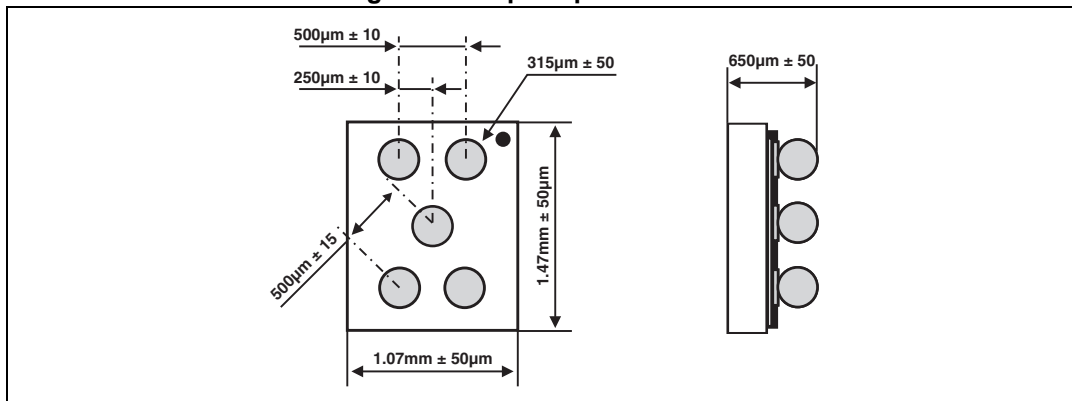


Figure 11. Footprint

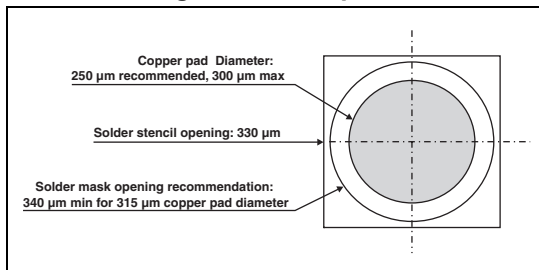


Figure 12. Marking

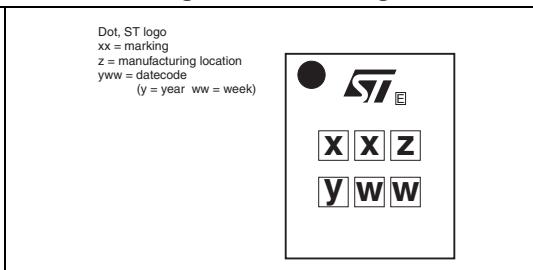
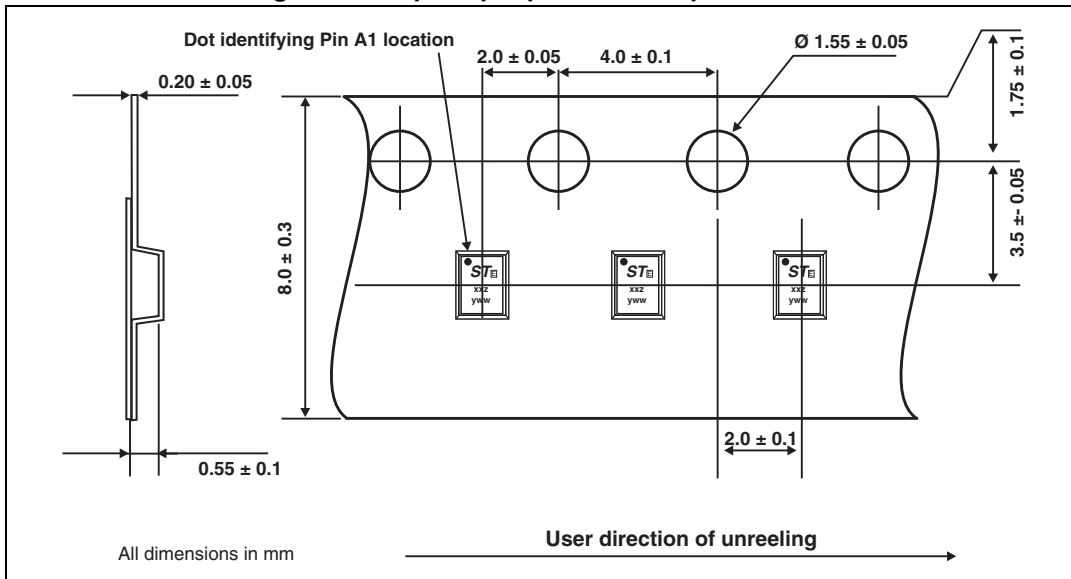


Figure 13. Flip Chip tape and reel specification



4 Ordering information

Table 4. Ordering information

| Order code | Marking | Package | Weight | Base qty | Delivery mode |
|----------------|---------|-----------|--------|----------|--------------------|
| EMIF02-MIC03F2 | FW | Flip Chip | 2.1 mg | 5000 | Tape and reel (7") |

Note: More packing information is available in the applications note:
 AN1235: "Flip Chip: package description and recommendations for use"
 AN 1751: "EMI filters: Recommendations and measurements"

5 Revision history

Table 5. Document revision history

| Date | Revision | Changes |
|-------------|----------|---|
| 14-Oct-2006 | 1 | Initial release |
| 31-Mar-2014 | 2 | Reformatted to current standards. Added ECOPACK statement. Updated Figure 2 and Figure 13 . |
| 18/07/2014 | 3 | Updated typo error on Features . |

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