



## EMIF08-VID01C2

8 line low capacitance EMI filter  
and ESD protection

### Main product characteristics

Where EMI filtering in ESD sensitive equipment is required :

- LCD & camera for mobile phones
- Computers and printers
- Communication systems
- MCU Boards

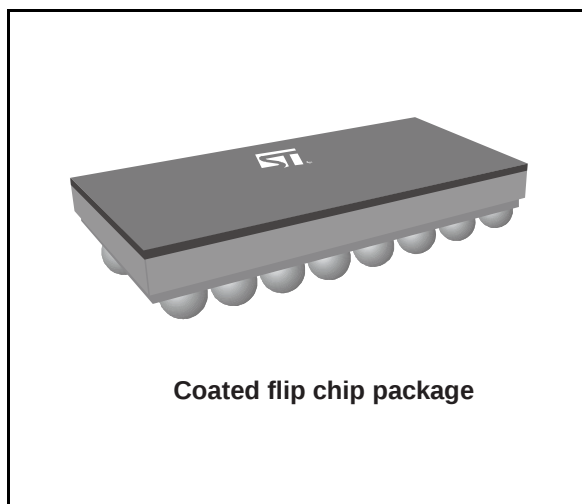
### Description

The EMIF08-VID01C2 is an 8 line highly integrated device designed to suppress EMI/RFI noise in all systems subjected to electromagnetic interference. The flip chip packaging means the package size is equal to the die size.

This filter includes ESD protection circuitry, which prevents damage to the application when it is subjected to ESD surges up to 15kV.

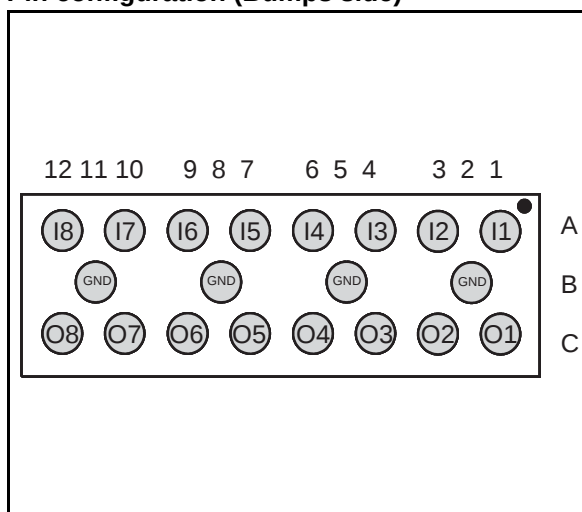
### Benefits

- High efficiency EMI filter (-33 dB @ 900 Mhz)
- Low line capacitance suitable for high speed data bus
- Low serial resistance for camera impedance adaptation
- Optimized PCB space consuming: 1.29 mm x 3.92 mm
- Very thin package: 0.695 mm
- Coating resin on back side and lead free package
- High efficiency in ESD suppression on inputs pins (IEC61000-4-2 level 4).
- High reliability offered by monolithic integration
- High reducing of parasitic elements through integration & wafer level packaging.



Coated flip chip package

### Pin configuration (Bumps side)



### Complies with following standards:

|                                      |       |                     |
|--------------------------------------|-------|---------------------|
| IEC61000-4-2                         |       |                     |
| level 4 input pins                   | 15 kV | (air discharge)     |
|                                      | 8 kV  | (contact discharge) |
| level 1 output pins                  | 2 kV  | (air discharge)     |
|                                      | 2 kV  | (contact discharge) |
| MIL STD 883E - Method 3015-6 Class 3 |       |                     |

Figure 1. Basic cell configuration

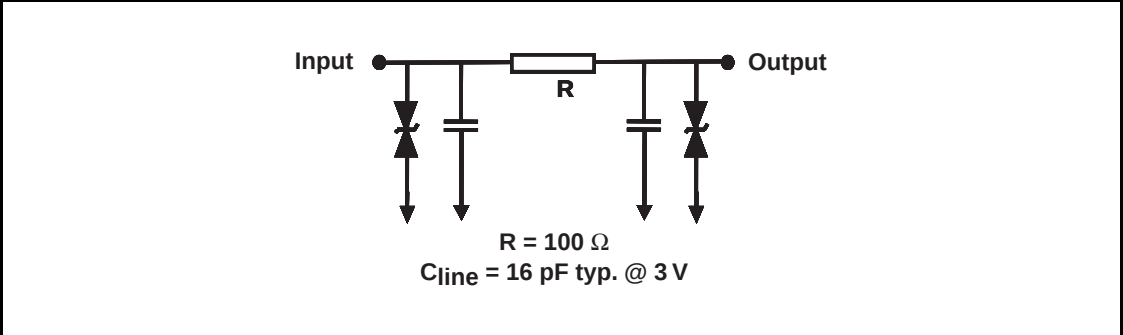
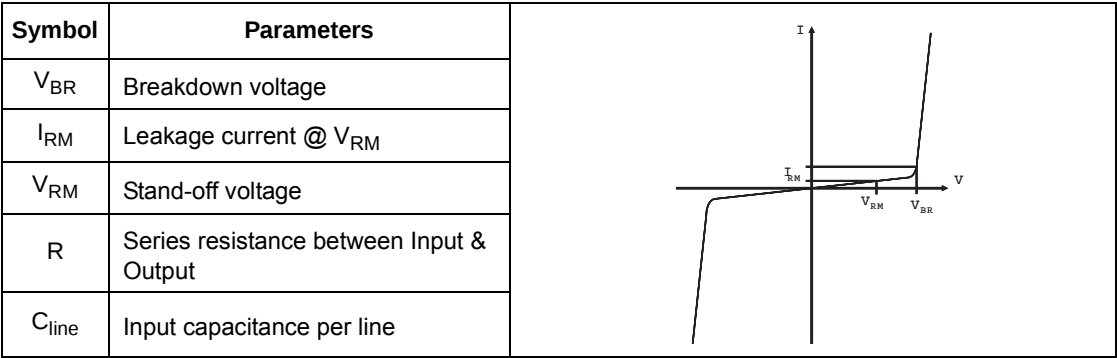


Table 1. Absolute ratings (limiting values)

| Symbol           | Parameter                                    | Value       | Unit |
|------------------|----------------------------------------------|-------------|------|
| Vpp              | ESD discharge IEC61000-4-2 air discharge     | 15          | kV   |
|                  | ESD discharge IEC61000-4-2 contact discharge | 8           | KV   |
| Tj               | Maximum junction temperature                 | 125         | °C   |
| T <sub>op</sub>  | Operating temperature range                  | -40 to +85  | °C   |
| T <sub>stg</sub> | Storage temperature range                    | -55 to +150 | °C   |

1 Electrical characteristics (T<sub>amb</sub> = 25°C)



| Symbol            | Test conditions               | Min | Typ | Max | Unit |
|-------------------|-------------------------------|-----|-----|-----|------|
| V <sub>BR</sub>   | I <sub>R</sub> = 1mA          | 6   | 8   | 10  | V    |
| I <sub>RM</sub>   | V <sub>RM</sub> = 3V per line |     |     | 500 | nA   |
| R <sub>I/O</sub>  | I=10mA                        | 80  | 100 | 120 | Ω    |
| C <sub>line</sub> | V <sub>R</sub> = 3V DC, 1 MHz |     | 16  | 19  | pF   |

Figure 2. S21 (dB) attenuation measurement      Figure 3. Analog crosstalk measurement

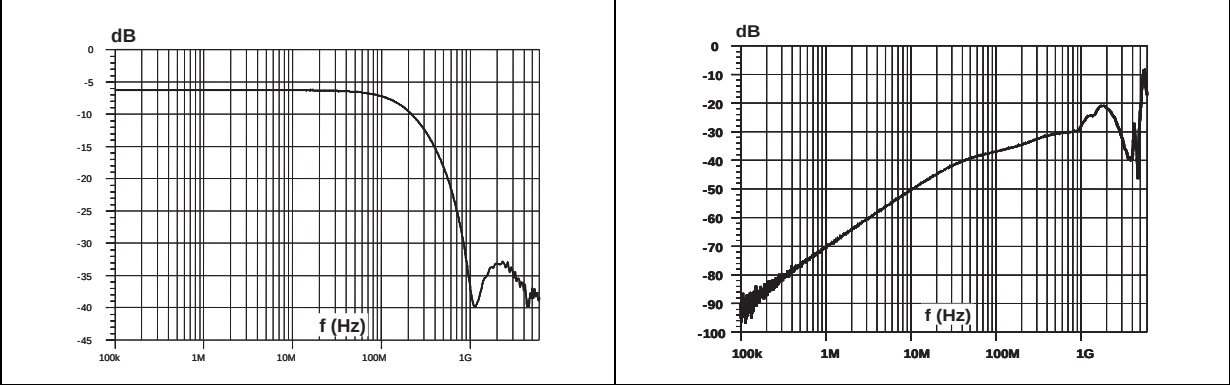


Figure 4. ESD response to IEC61000-4-2 (+15 kV air discharge) on one input V<sub>in</sub> and one output V<sub>out</sub>      Figure 5. ESD response to IEC61000-4-2 (- 15 kV air discharge) on one input V<sub>in</sub> and one output V<sub>out</sub>

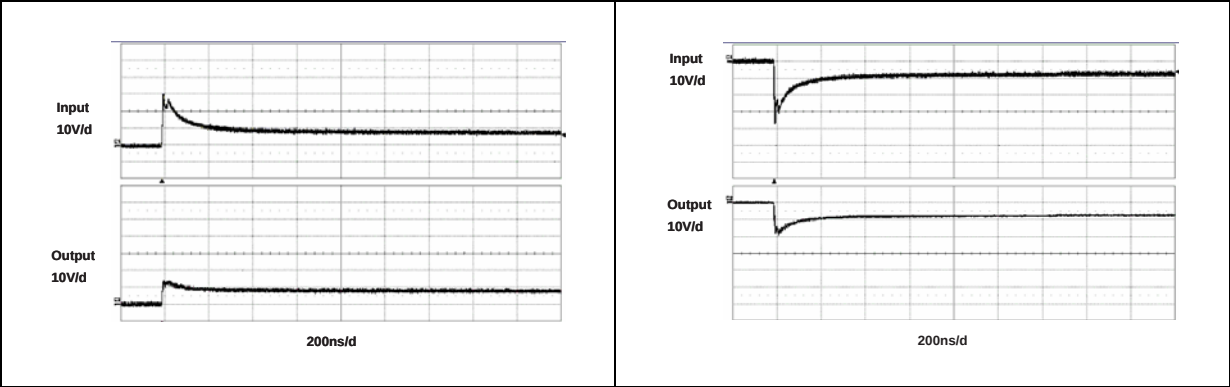
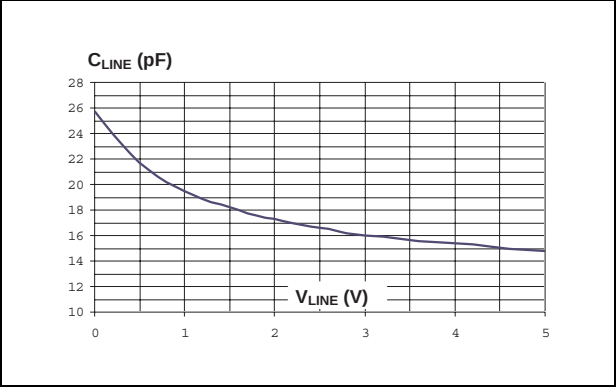
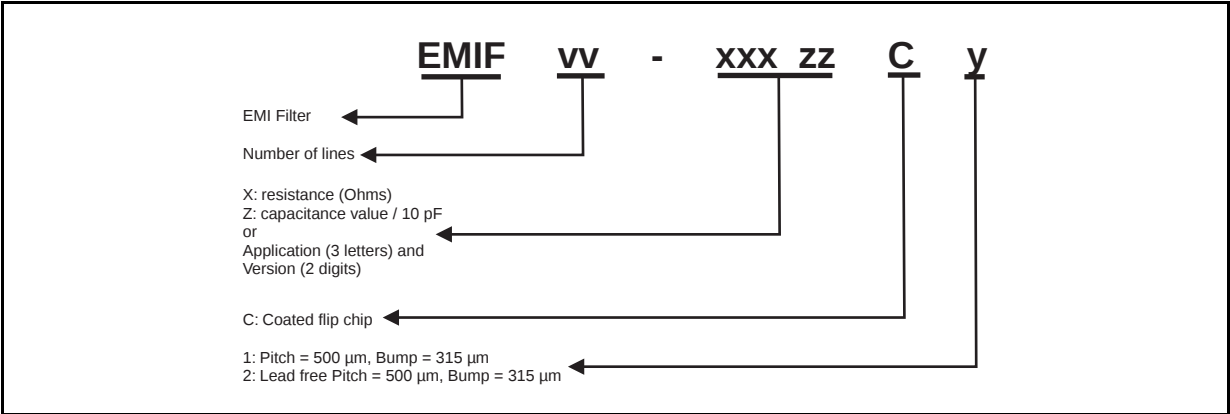


Figure 6. Line capacitance versus applied voltage



2 Ordering information scheme



3 Package mechanical data flip chip

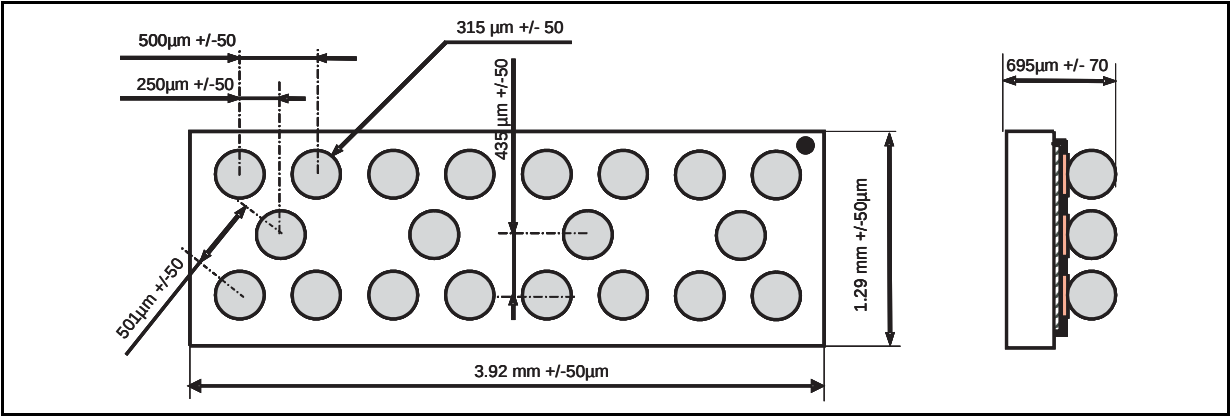


Figure 7. Marking

Figure 8. Foot print recommendation

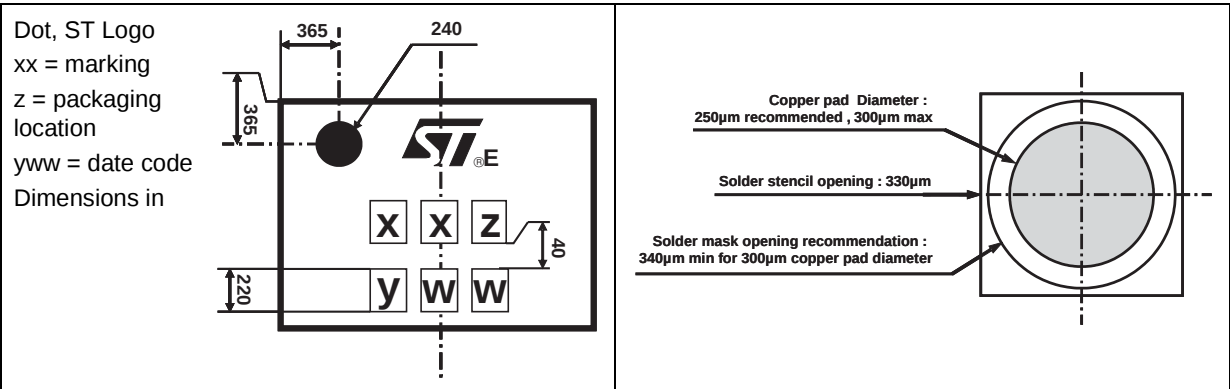
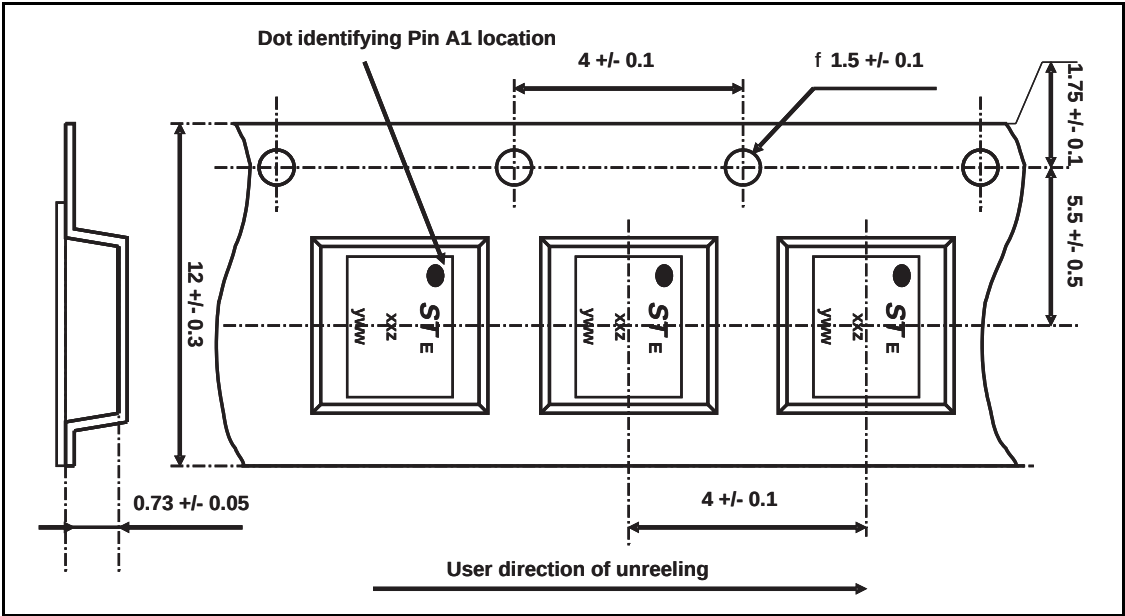


Figure 9. Flip chip tape and reel specification



4 Ordering information

| Ordering code  | Marking | Package   | Weight | Base qty | Delivery mode    |
|----------------|---------|-----------|--------|----------|------------------|
| EMIF08-VID01C2 | GS      | Flip Chip | 7.4mg  | 5000     | 7" Tape and reel |

5 Revision history

| Date        | Revision | Changes                               |
|-------------|----------|---------------------------------------|
| 13-Jul-2005 | 1        | Initial release.                      |
| 11-Aug-2005 | 2        | Fonts changed in Figures 7, 8, and 9. |

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