



IPAD™

# EMIF06-VID01C1

## 6 LINES LOW CAPACITANCE EMI FILTER AND ESD PROTECTION

## MAIN APPLICATION

Where EMI filtering in ESD sensitive equipment is required:

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

## DESCRIPTION

The EMIF06-VID01C1 is a 6 lines highly integrated array designed to suppress EMI / RFI noise in all systems subjected to electromagnetic interferences.

The EMIF06-VID01C1 Flip-Chip packaging means the package size is equal to the die size. Additionally, this filter includes an ESD protection circuitry which prevents the protected device from destruction when subjected to ESD surges up to 15 kV.

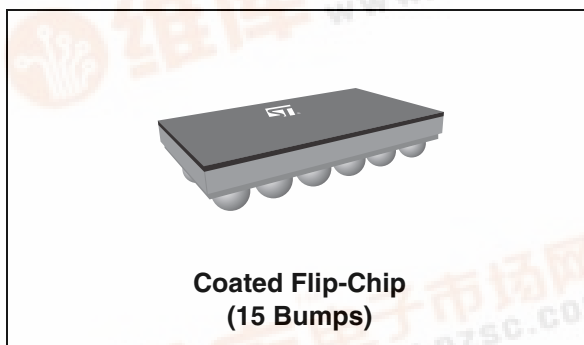
## BENEFITS

- High efficiency EMI filtering (-40db @ 900MHz)
- Low line capacitance suitable for high speed data bus
- Low serial resistance for camera impedance adaptation
- Optimized PCB space consuming:  
2.92mm x 1.29mm
- Very thin package: 0.69 mm
- 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

**COMPLIES WITH THE FOLLOWING STANDARDS:**  
**IEC61000-4-2**

Level 4 on input pins    15kV (air discharge)  
                                      8kV (contact discharge)

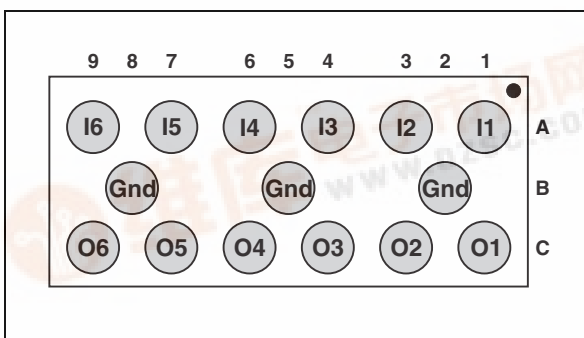
MIL STD 883E - Method 3015-6 Class 3



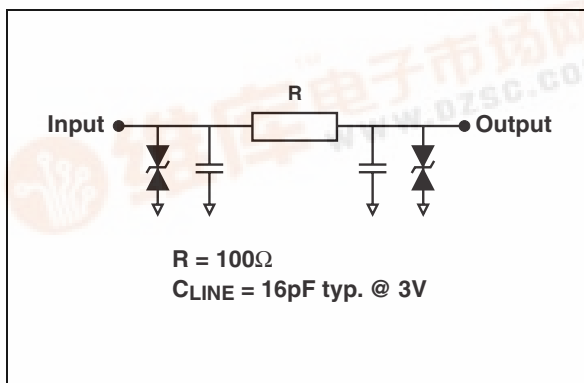
### Table 1: Order Code

Part Number	Marking
EMIF06-VID01C1	GR

### Figure 1: Pin Configuration (ball side)



### Figure 2: Configuration



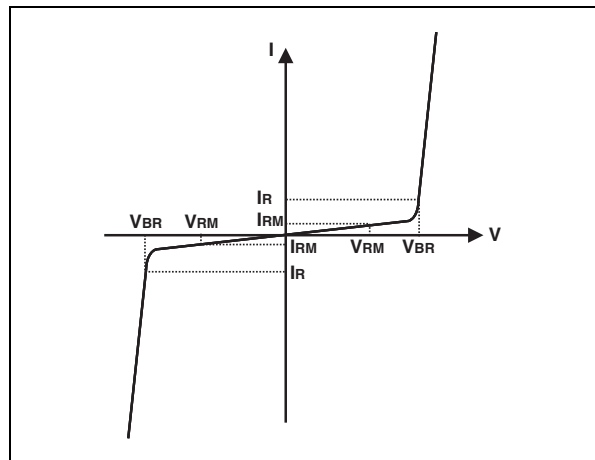
## EMIF06-VID01C1

**Table 2: Absolute Ratings** (limiting values)

Symbol	Parameter and test conditions	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

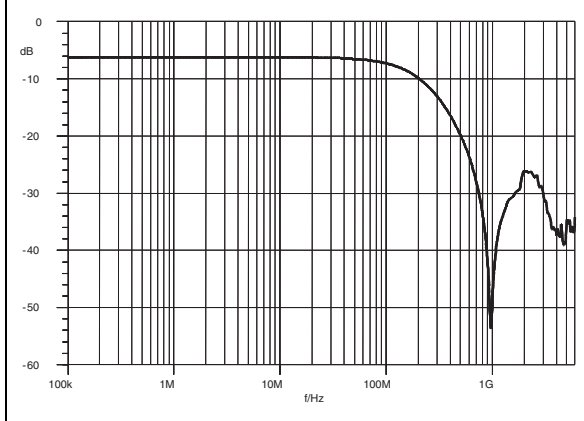
**Table 3: Electrical Characteristics** ( $T_{amb} = 25^{\circ}\text{C}$ )

Symbol	Parameter
$V_{BR}$	Breakdown voltage
$I_{RM}$	Leakage current @ $V_{RM}$
$V_{RM}$	Stand-off voltage
$R$	Series resistance between Input & Output
$C_{line}$	Input capacitance per line

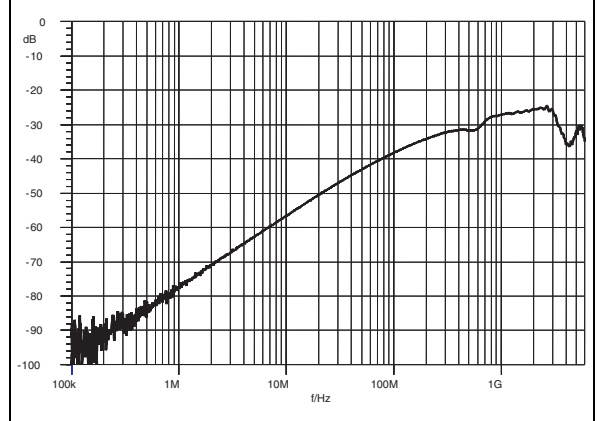


Symbol	Test conditions	Min.	Typ.	Max.	Unit
$V_{BR}$	$I_R = 1\text{mA}$	6	8	10	V
$I_{RM}$	$V_{RM} = 3\text{V per line}$			500	nA
$R$	$I = 10\text{mA}$	80	100	120	$\Omega$
$C_{line}$	$V_R = 3\text{V DC}$ 1MHz $V_{OSC} = 30\text{mV}$		16	19	pF

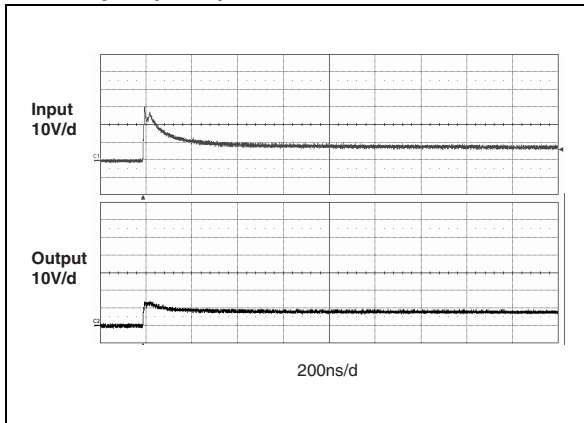
**Figure 3: S21 (dB) attenuation measurement**



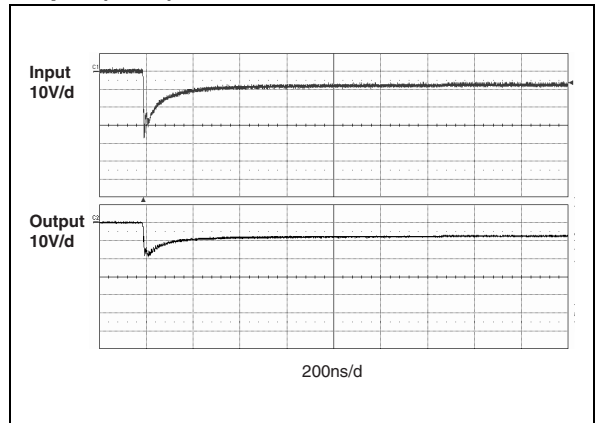
**Figure 4: Analog crosstalk measurement**



**Figure 5: ESD response to IEC61000-4-2 (+15kV air discharge) on one input V(in) and on one output (Vout)**



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



**Figure 7: Junction capacitance versus reverse voltage applied (typical values)**

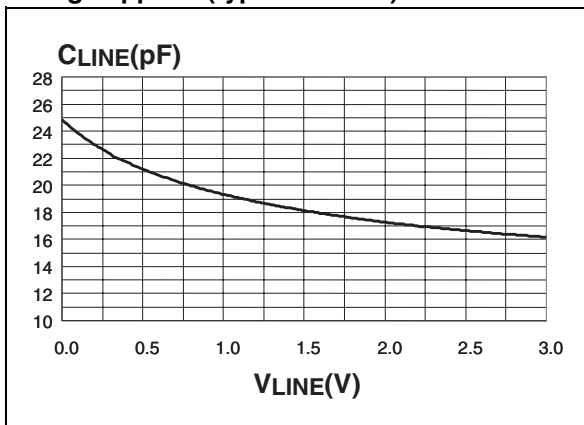


Figure 8: Ordering Information Scheme

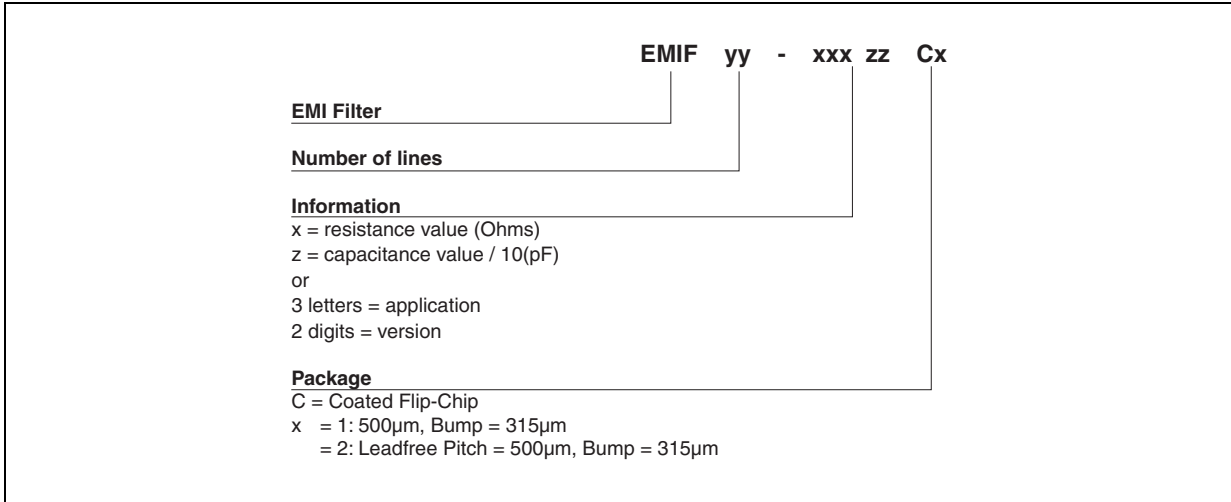


Figure 9: FLIP-CHIP Package Mechanical Data

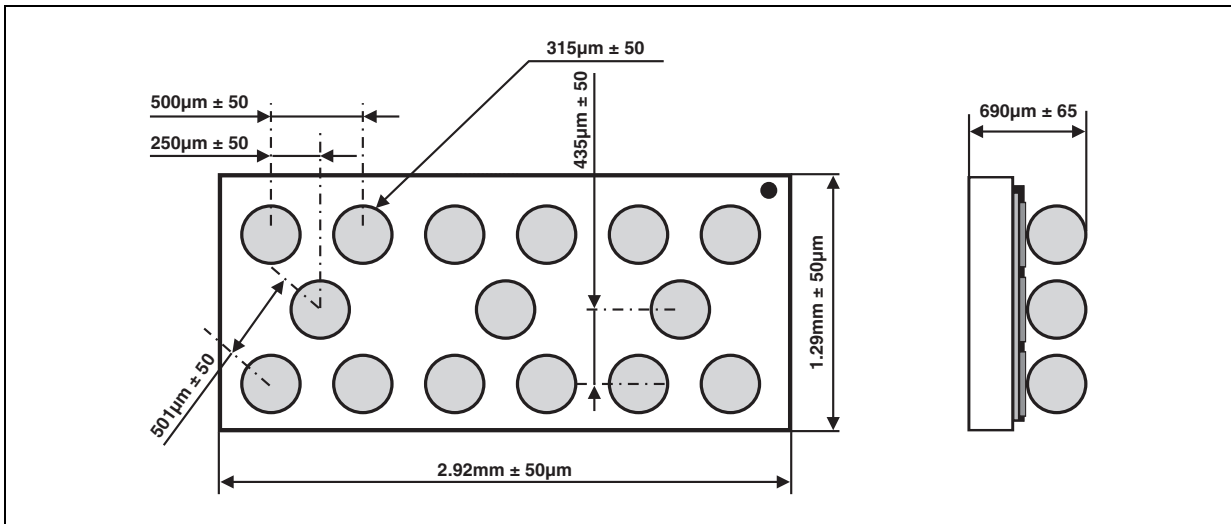


Figure 10: Foot Print Recommendations

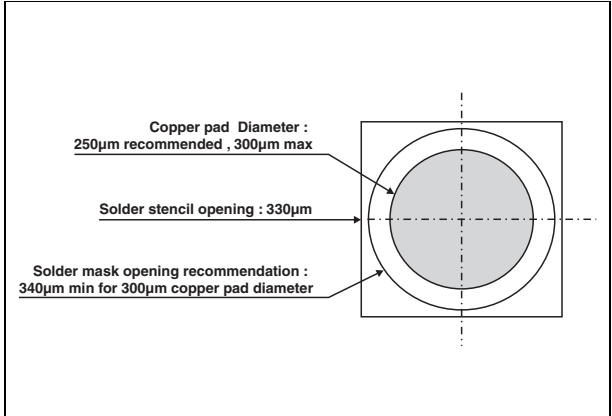


Figure 11: Marking

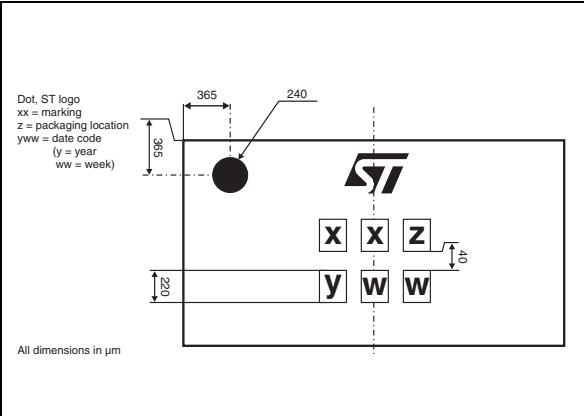


Figure 12: FLIP-CHIP Tape and Reel Specification

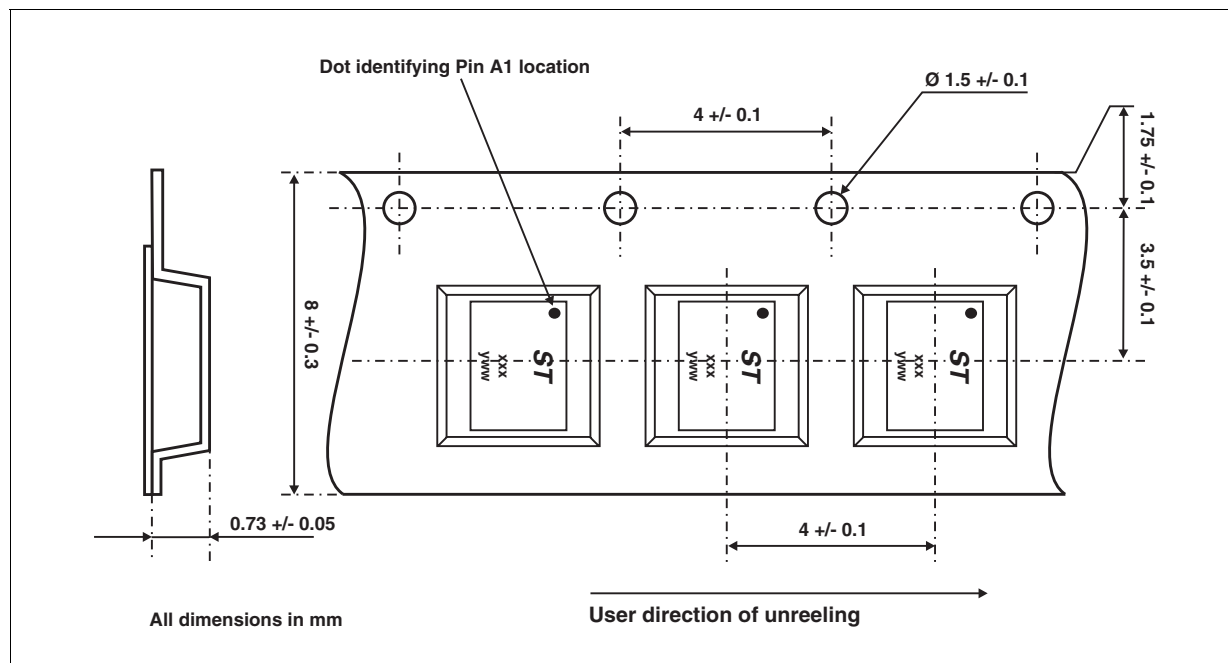


Table 4: Ordering Information

Ordering code	Marking	Package	Weight	Base qty	Delivery mode
EMIF06-VID01C1	GR	Flip-Chip	5.9 mg	5000	Tape & reel 7"

**Note:** More packing informations are available in the application note  
 AN1235: "Flip-Chip: Package description and recommendations for use"  
 AN1751: "EMI Filters: Recommendations and measurements"

Table 5: Revision History

Date	Revision	Description of Changes
15-Feb-2005	1	First issue.

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