



# EMIF08-2005QEJ

IPAD™

## EMI FILTER INCLUDING ESD PROTECTION

### APPLICATIONS:

Where EMI filtering in ESD sensitive equipment is required :

- Computers and printer
- Communication systems
- Mobile phones

### DESCRIPTION

The EMIF08-2005QEJ is a highly integrated device designed to suppress EMI/RFI noise in all systems subjected to electromagnetic interferences. Additionally, the EMIF08-2005QEJ filter includes an ESD protection circuitry which prevents destruction when subjected to ESD discharge up to 15kV.

### BENEFITS

- EMI symmetrical low-pass filter
- Low PCB space consuming: 9 mm<sup>2</sup>
- Very thin package < 1 mm
- High reliability offered by monolithic integration

### COMPLIES WITH THE FOLLOWING STANDARDS:

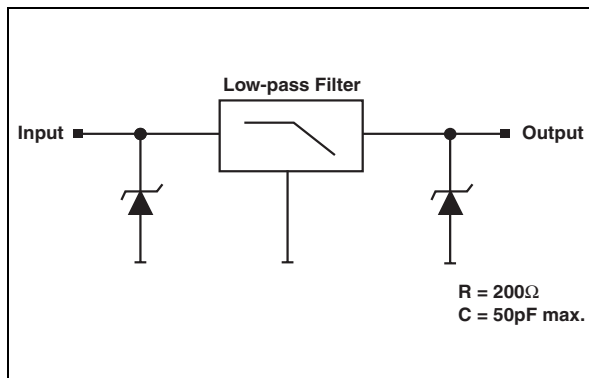
#### IEC61000-4-2:

15kV (air discharge)  
8kV (contact discharge)

#### MIL STD 883E - Method 3015-7 Class 3:

25kV (human body test)

Figure 3: Basic Cell Configuration



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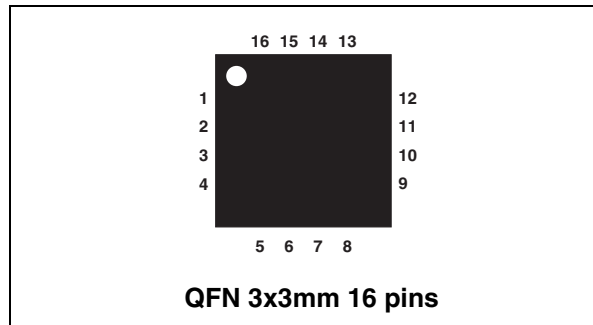
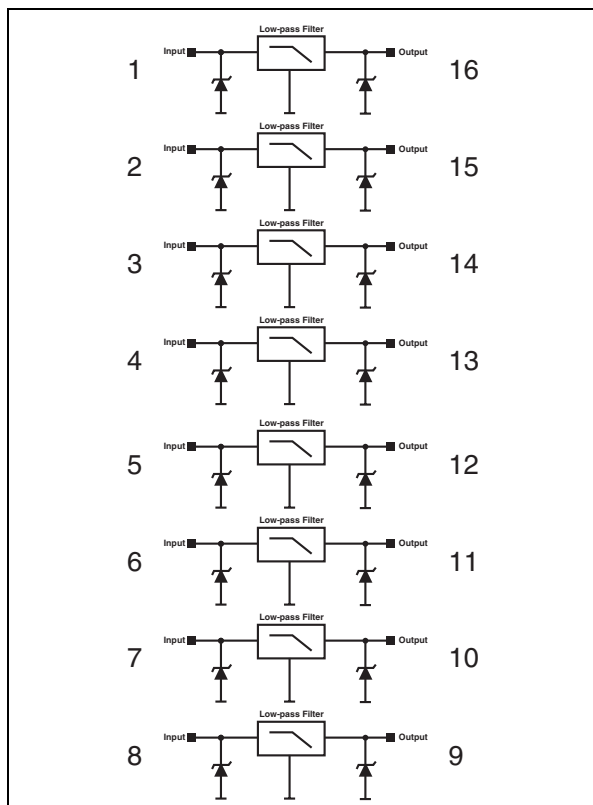


Table 1: Order Code

Part Number	Marking
EMIF08-2005QEJ	EM08

Figure 2: Pin Configuration

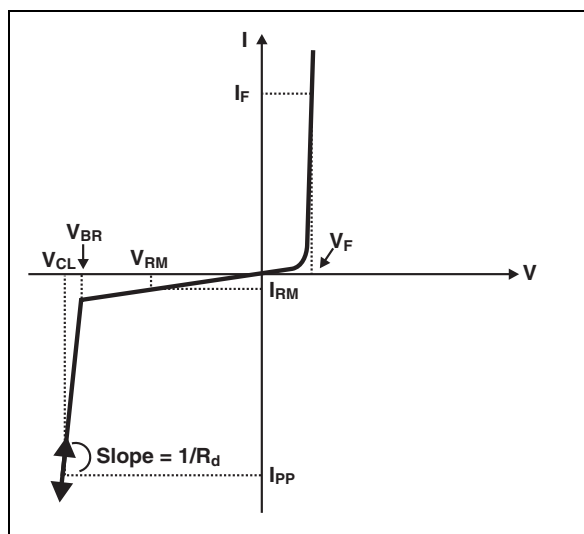


**Table 2: Absolute Ratings** (T<sub>amb</sub> = 25°C)

Symbol	Parameter and test conditions		Value	Unit
V <sub>PP</sub>	ESD discharge	EC61000-4-2 air discharge IEC61000-4-2 contact discharge	± 15 ± 8	kV
T <sub>j</sub>	Junction temperature		125	°C
T <sub>stg</sub>	Storage temperature range		- 55 +150	°C
T <sub>L</sub>	Maximum lead temperature for soldering		260	°C

**Table 3: Electrical Characteristics** (T<sub>amb</sub> = 25 °C)

Symbol	Parameter
V <sub>BR</sub>	Breakdown voltage
I <sub>RM</sub>	Leakage current @ V <sub>RM</sub>
V <sub>RM</sub>	Stand-off voltage
V <sub>CL</sub>	Clamping voltage
I <sub>PP</sub>	Peak pulse current
αT	Voltage temperature coefficient
V <sub>F</sub>	Forward voltage drop
R <sub>I/O</sub>	Series resistance between Input & Output
C <sub>line</sub>	Input capacitance per line



Symbol	Test conditions	Min.	Typ.	Max.	Unit
V <sub>BR</sub>	I <sub>R</sub> = 1 mA	6	8	10	V
I <sub>RM</sub>	V <sub>RM</sub> = 3V per line			500	nA
R <sub>d</sub>	I <sub>PP</sub> = 10A, t <sub>p</sub> = 2.5μs		1		Ω
R <sub>I/O</sub>		180	200	220	Ω
C <sub>in</sub>	V <sub>bias</sub> = 0V F = 1MHz V <sub>osc</sub> = 30mV		45	50	pF

Figure 3: Filtering behavior

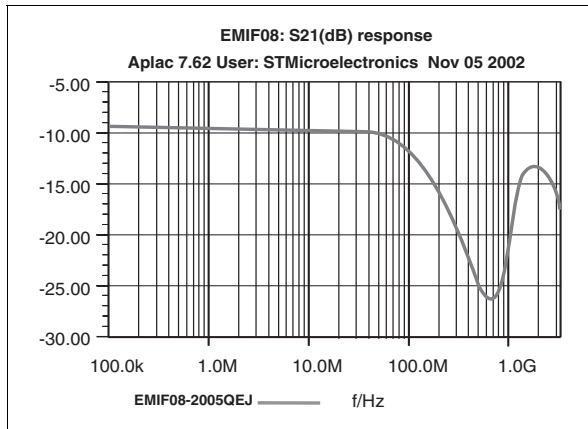


Figure 4: Capacitance versus reverse applied voltage

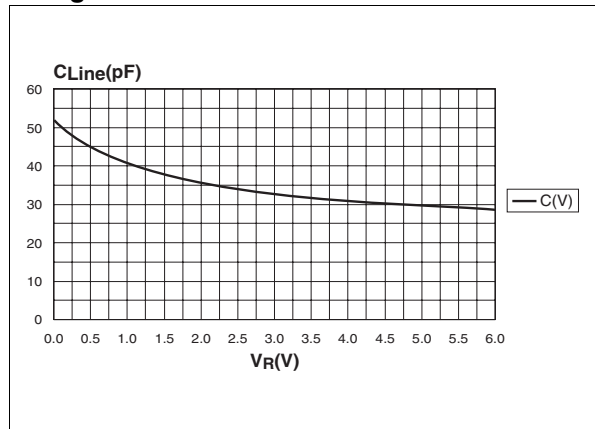


Figure 5: Ordering Information Scheme

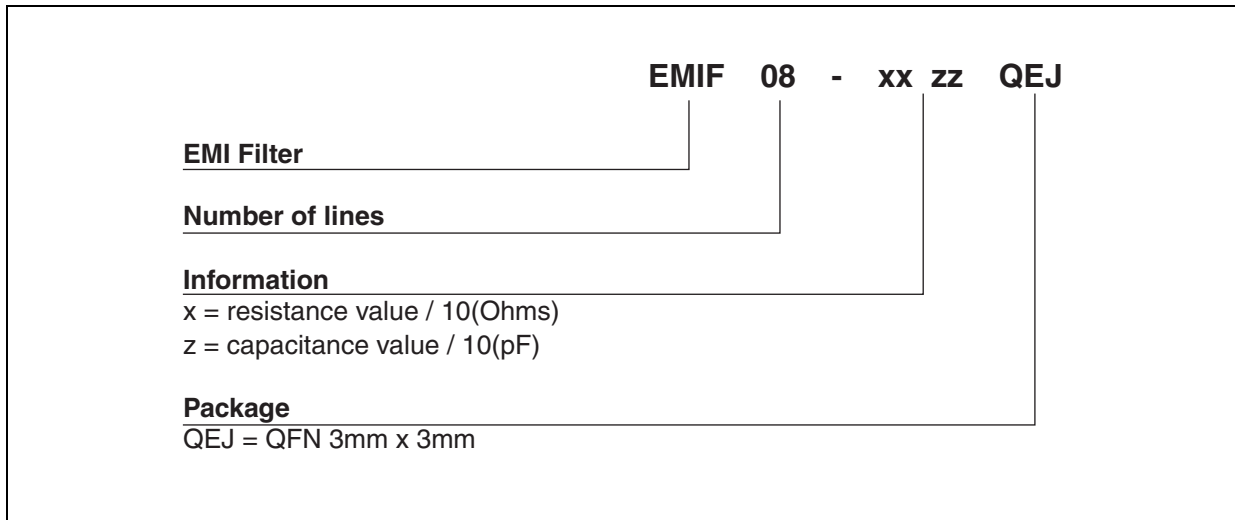


Figure 6: QFN Package Mechanical Data

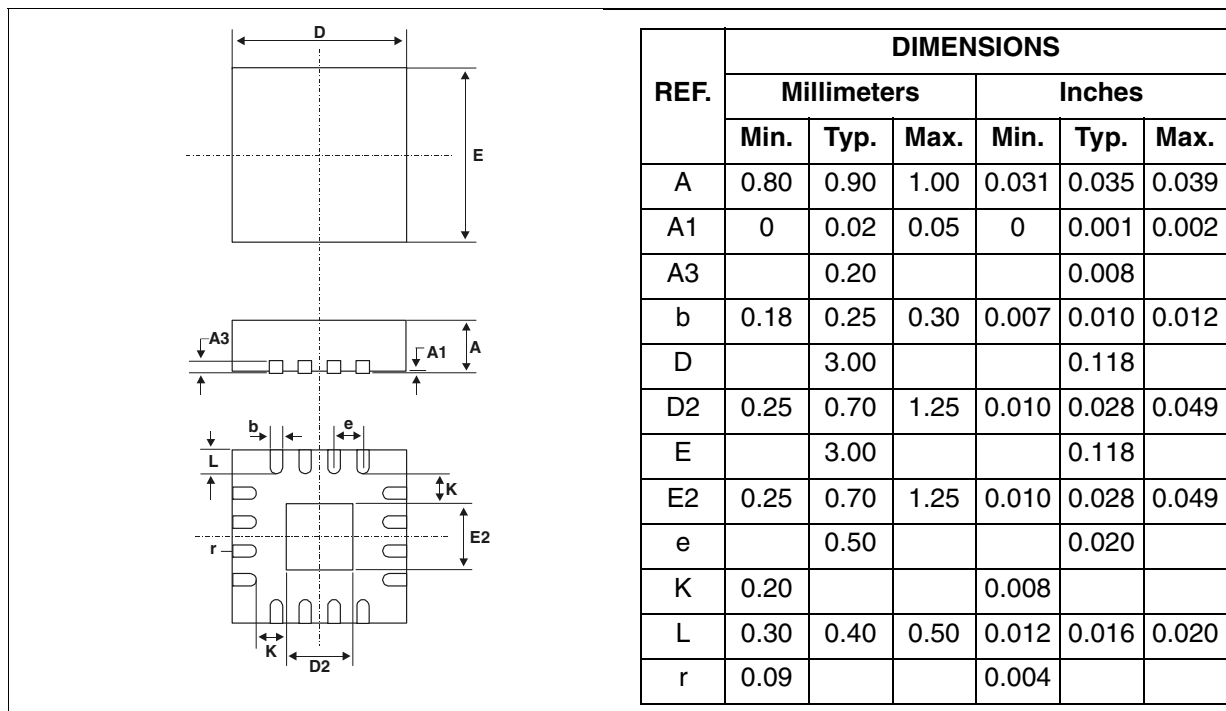


Figure 7: Foot Print Dimensions (in millimeters)

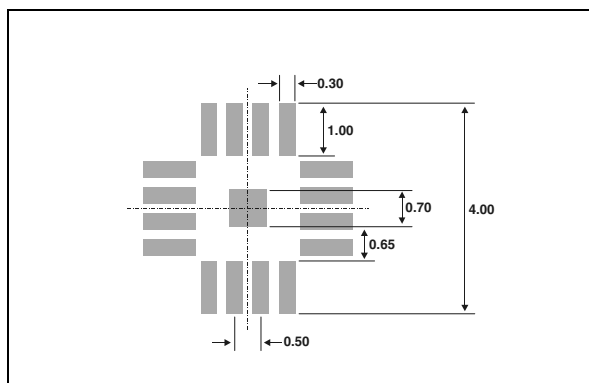


Table 4: Ordering Information

Ordering code	Marking	Package	Weight	Base qty	Delivery mode
EMIF08-2005QEJ	EM08	QFN 3x3 16 pins	22.1 mg	3000	Tape & reel

Table 5: Revision History

Date	Revision	Description of Changes
Dec-2002	2A	Last issue.
03-Jan-2005	3	Minor template update. No content change.

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