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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^2
- Very thin package < 1 mm
- High reliability offered by monolithic integration

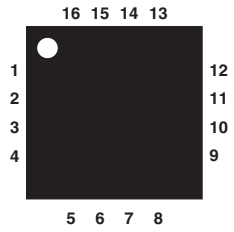
COMPLIES WITH THE FOLLOWING STANDARDS:

IEC61000-4-2:

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

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

25kV (human body test)



QFN 3x3mm 16 pins

Table 1: Order Code

Part Number	Marking
EMIF08-2005QEJ	EM08

Figure 2: Pin Configuration

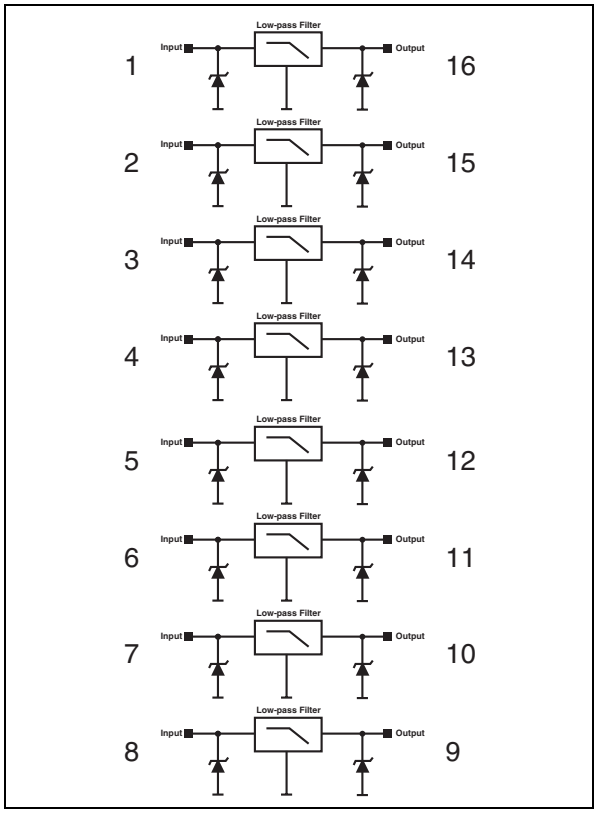
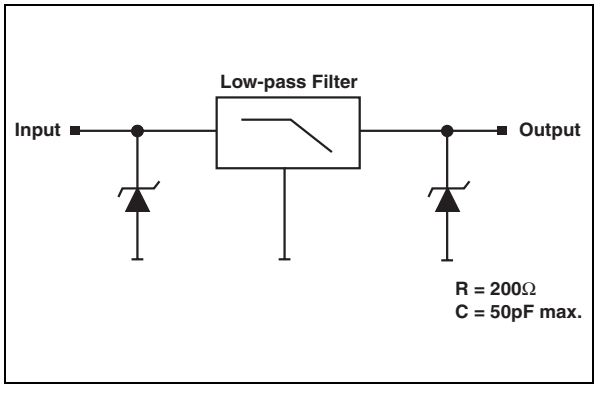


Figure 3: Basic Cell Configuration



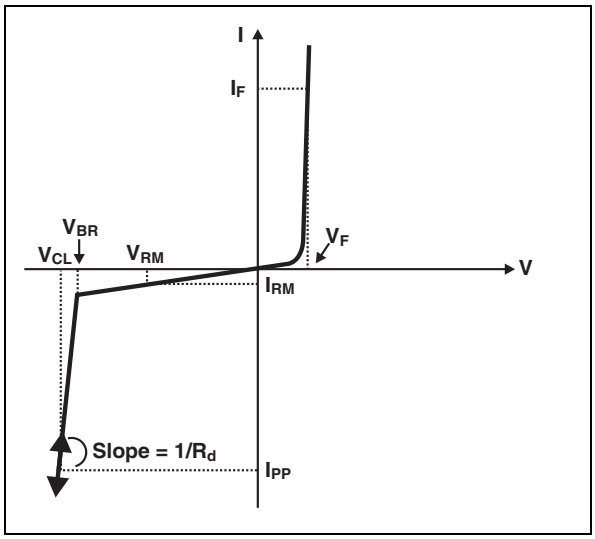
TM: IPAD is a trademark of STMicroelectronics.

Table 2: Absolute Ratings (Tamb = 25°C)

Symbol	Parameter and test conditions		Value	Unit
V_{PP}	ESD discharge	EC61000-4-2 air discharge IEC61000-4-2 contact discharge	± 15 ± 8	kV
T_j	Junction temperature		125	°C
T_{stg}	Storage temperature range		- 55 +150	°C
T_L	Maximum lead temperature for soldering		260	°C

Table 3: Electrical Characteristics (T_{amb} = 25 °C)

Symbol	Parameter
V_{BR}	Breakdown voltage
I_{RM}	Leakage current @ V_{RM}
V_{RM}	Stand-off voltage
V_{CL}	Clamping voltage
I_{PP}	Peak pulse current
αT	Voltage temperature coefficient
V_F	Forward voltage drop
$R_{I/O}$	Series resistance between Input & Output
C_{line}	Input capacitance per line



Symbol	Test conditions	Min.	Typ.	Max.	Unit
V_{BR}	I_R = 1 mA	6	8	10	V
I_{RM}	V_{RM} = 3V per line			500	nA
R_d	I_{PP} = 10A, t_p = 2.5µs		1		Ω
$R_{I/O}$		180	200	220	Ω
C_{in}	V_{bias} = 0V F = 1MHz V_{osc} = 30mV		45	50	pF

Figure 3: Filtering behavior

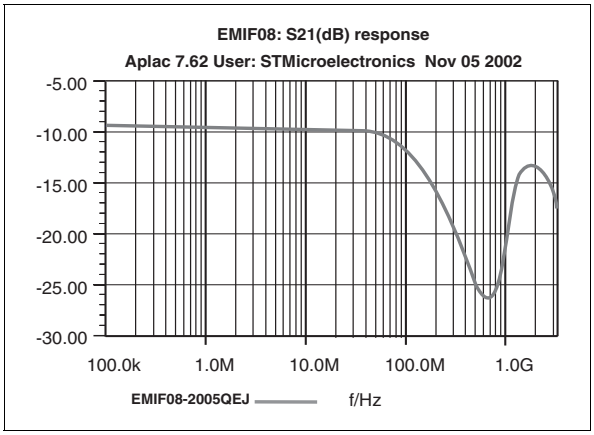


Figure 4: Capacitance versus reverse applied voltage

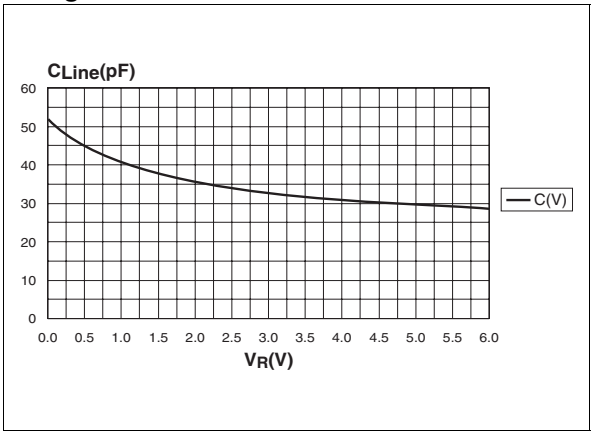


Figure 5: Ordering Information Scheme

EMIF 08 - xx zz QEJ

EMI Filter

Number of lines

Information

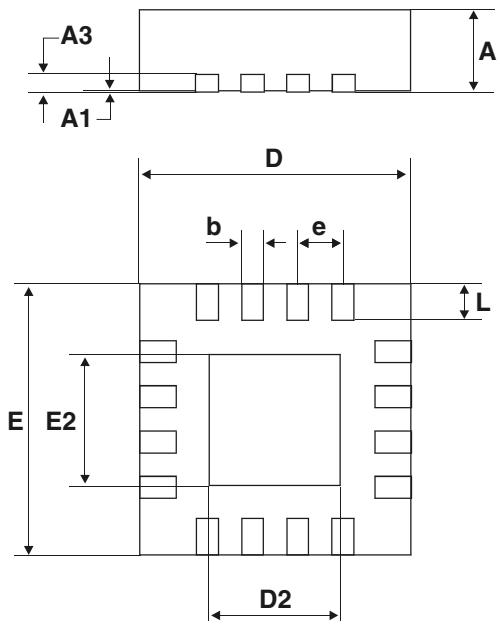
x = resistance value / 10(Ohms)

z = capacitance value / 10(pF)

Package

QEJ = QFN 3mm x 3mm

Figure 6: QFN Package Mechanical Data



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.80		1.00	0.031		0.039
A1	0		0.05	0		0.002
A3		0.20			0.008	
b	0.18		0.30	0.007		0.012
D		3.00			0.118	
D2	1.25		1.55	0.049		0.061
E		3.00			0.118	
E2	1.25		1.55	0.049		0.061
e		0.50			0.020	
K	0.20			0.008		
L	0.30	0.40	0.50	0.012	0.016	0.020

Figure 7: Foot Print Dimensions (in millimeters)

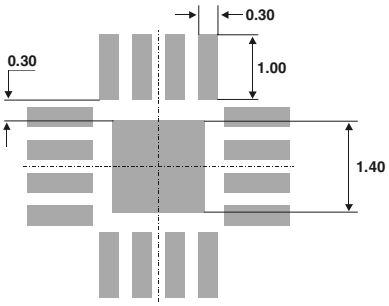


Table 4: Ordering Information

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.
01-Apr-2005	4	**QFN package mechanical data update:** 1/ References A typ., A1 typ., b typ. D2 typ. and E2 typ. removed. 2/ Reference D2 changed from 0.25 min. to 1.25 min. and from 1.25 max. to 1.55 max. 3/ Reference E2 changed from 0.25 min. to 1.25 min. and from 1.25 max. to 1.55 max. 4/ Footprint updated, in compliance with IPC-SM-782.