PV1005UDF12B

ESD/EMI Filter

APPLICATION

- I/O ESD protection for mobile handsets, notebook, PDAs, etc.
- EMI filtering for data ports in cell phones, PDAs, notebook computers
- EMI filtering for LCD, camera and chip-to-chip data lines

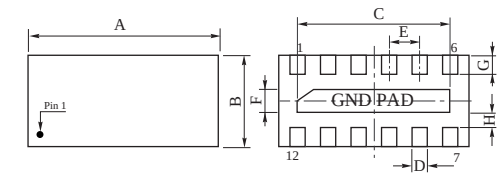
FEATURES

- EMI/RFI filtering
- ESD Protection to IEC 61000-4-2 Level 4
- Low insertion loss
- Good attenuation of high frequency signals
- Low clamping voltage
- Low operating and leakage current
- Six elements in one package

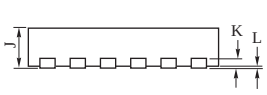
DESCRIPTION

PV1005UDF12B is an EMI filter array with electrostatic discharge (ESD) protection, which integrates six pi filters (C-R-C). These parts include ESD protection diodes on every pin, providing a very high level of protection for sensitive electronic components that may be subjected to electrostatic discharge.

The PV1005UDF12B provides the recommended line termination while implementing a low pass filter to limit EMI levels and providing ESD protection which exceeds IEC 61000-4-2 level 4 standard. The UDFN package is a very effective PCB space occupation and a very thin package (0.4mm Pitch, 0.5mm height)



TOP VIEW BOTTOM VIEW



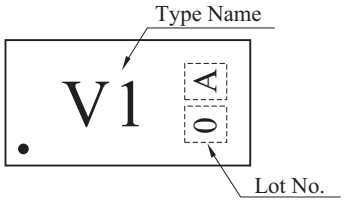
SIDE VIEW

1,12 : Filter channel 1
2,11 : Filter channel 2
3,10 : Filter channel 3
4,9 : Filter channel 4
5,8 : Filter channel 5
6,7 : Filter channel 6

DIM	MILLIMETERS
A	2.50 ± 0.10
B	1.35 ± 0.10
C	2.00 ± 0.10
D	0.20 ± 0.05
E	0.40
F	0.40 ± 0.10
G	0.25 ± 0.10
H	0.20 Min
J	0.50 ± 0.05
K	0.127
L	0.02+0.03/-0.02

UDFN-12B

MARKING

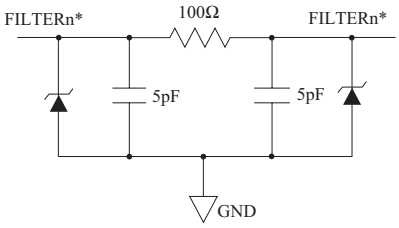


MAXIMUM RATING (Ta=25℃)

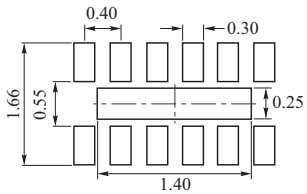
CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Power Per Resistor	P_R	100	mW
Power Dissipation	*P_D	600	
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55 150	℃

* Total Package Power Dissipation

EQUIVALENT CIRCUIT



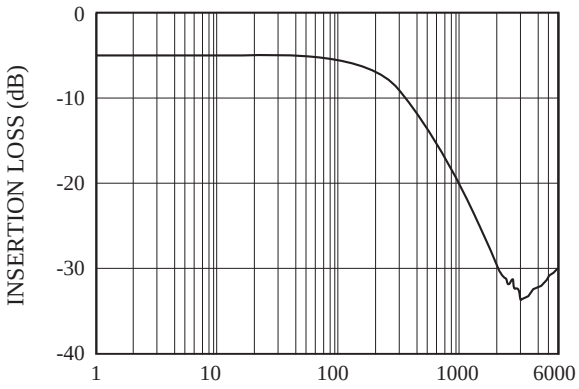
RECOMMENEDED FOOTPRINT (dimensions in mm)



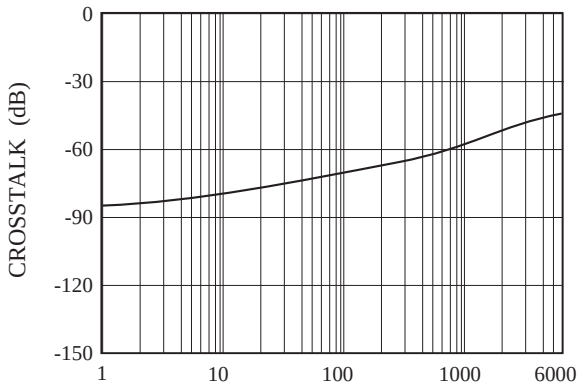
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	I_t=1mA	6	-	-	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V	-	-	1.0	μA
Cutoff Frequency	fc_{-3dB}	V_{Line}=0V, Z_{SOURCE}=50Ω, Z_{LOAD}=50Ω	-	300	-	MHz
Channel Resistance	R_{LINE}	Between Input and Output	80	100	120	Ω
Line Capacitance	C_{LINE}	V_{Line}=0V DC, 1MHz, Between I/O Pins and GND	12	15	18	pF
		V_{Line}=2.5V, 1MHz, Between I/O Pins and GND	8	10	12	

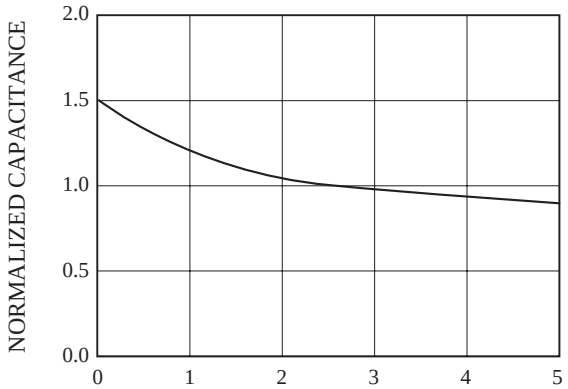
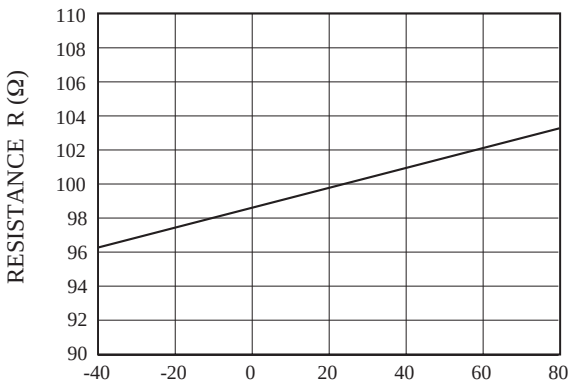
S_{21} - FREQUENCY



ANALOG CROSSTALK



DIODE CAPACITANCE vs. INPUT VOLTAGE



R_{Line} - TEMPERATURE