LITE-ON SEMICONDUCTOR

LEF10001MG-8

ESD/EMI PROTECTION DEVICE

STAND-OFF VOLTAGE - **5.0** Volts

GENERAL DESCRIPTION

The LEF10001MG-8 is a low pass filter array with integrated TVS diodes. It is designed to suppress unwanted EMI/RFI signals and provide electrostatic discharge (ESD) protection in portable electronic equipment. This state-of-the-art device utilizes solid-state silicon-avalanche technology for superior clamping performance and DC electrical characteristics. They have been optimized for protection of color LCD panels in cellular phones and other portable electronics.

FEATURES

- Bidirectional EMI/RFI filter with integrated TVS for ESD protection
- Filter performance : 30dB minimum attenuation 1.8GHz to 2.5GHz
- Protection and filtering for eight lines
- IEC 61000-4-2, level 4 (ESD), > ±15KV (air) ; > ±8KV (contact)

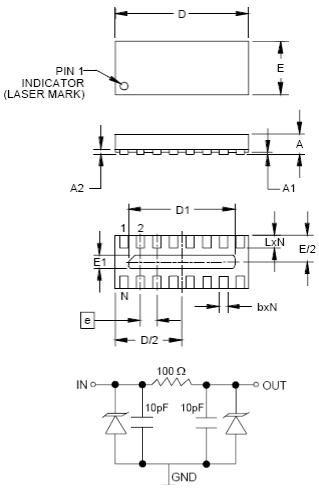
APPLICATION

- Color LCD Protection
- Cell Phone CCD Camera Lines
- Clamshell Cell Phones

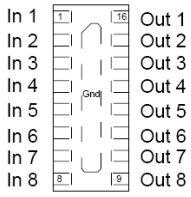
MECHANICAL DATA

- Case Material: "Green" molding compound UL flammability classification 94V-0 (No Br.Sb, Cl)
- Terminals: Lead Free Plating (Matte Tin Finish)
- Component in accordance to RoHs 2002/95/E

SLP4016P16



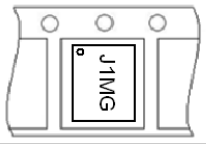
Device Schematic (8X)



Pin Assignment (Top Side View)

SLP4016P16		
DIM.	MIN.	MAX.
A	0.50	0.65
A1	0.00	0.05
A2	(0.13)	
b	0.20	0.30
D	3.90	4.10
D1	3.10	3.30
E	1.50	1.70
E1	0.25	0.50
e	0.50 BSC	
L	0.28	0.38
All Dimensions in millimeter		

Marking & Orientation



MAXIMUM RATINGS (Tj= 25℃ unless otherwise noticed)

Rating	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air)	V_{ESD}	+/- 17	kV
ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 12	kV
Operating Junction Temperature Range	TJ	-45 to + 80	℃
Storage Temperature Range	Tstg	-55 to + 150	℃
Soldering Temperature, t max = 10s	TL	260	℃

ELECTRICAL CHARACTERISTICS (Tj= 25℃ unless otherwise noticed)

Parameter	Symbol	Conditions	Mln	Typ	Max	Unit
Reverse standoff voltage	V_{RWM}		---	---	5.0	V
Breakdown voltage	VBR	IR = 1 mA	6.0	---	10	V
Reverse leakage current	IRM	V_{DRM} = 3V	---	----	0.5	uA
Total Series Resistance	R	Each Line	85	100	115	Ohms
Junction capacitance	CJ	VR = 0V , f = 1MHz, Input to Gnd	16	20	24	pF
Junction capacitance	CJ	VR = 2.5V , f = 1MHz, Input to Gnd	9	11	13	pF

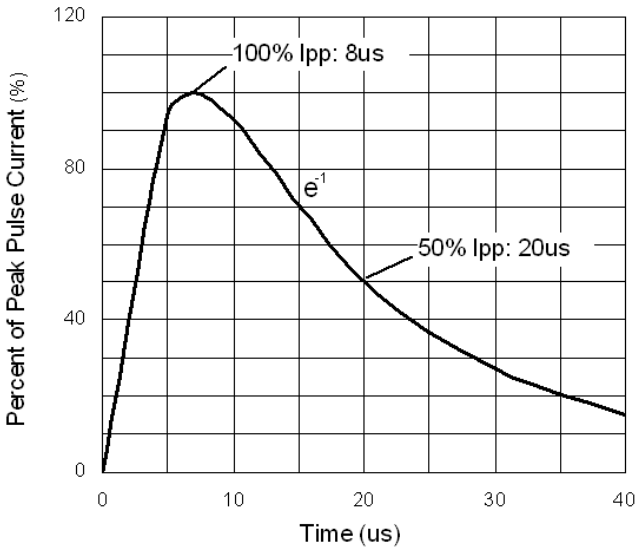


Figure 1. 8/20 us pulse waveform according to IEC 61000-4-5

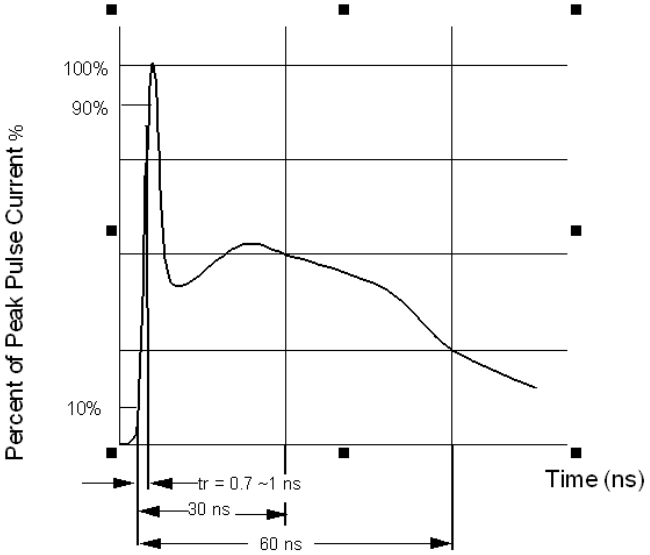


Figure 2. ESD pulse waveform according to IEC 61000-4-2

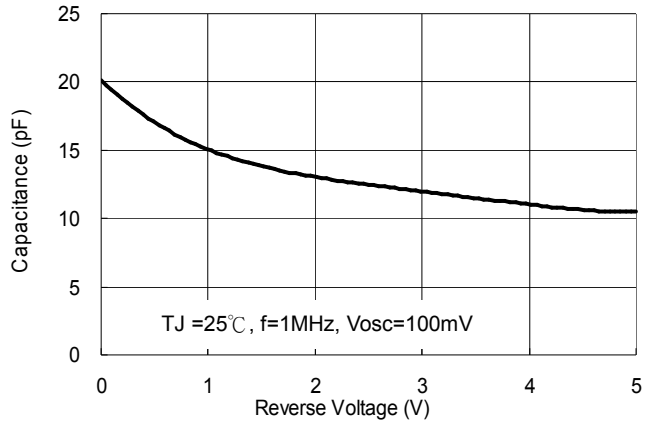


Figure 3. Typical Junction Capacitance

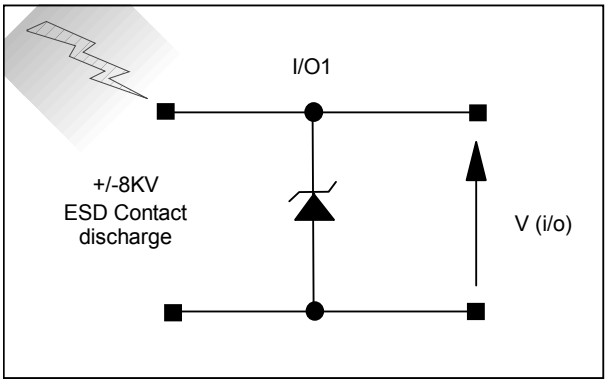


Figure 4. ESD Test Configuration

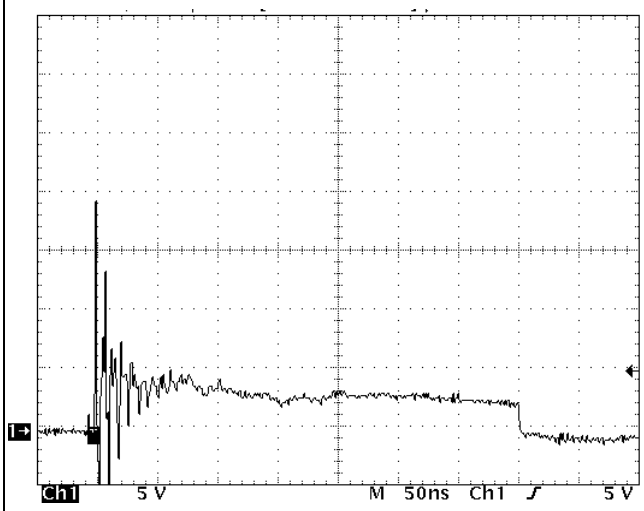


Figure 5. Clamped +8 kV ESD voltage waveform

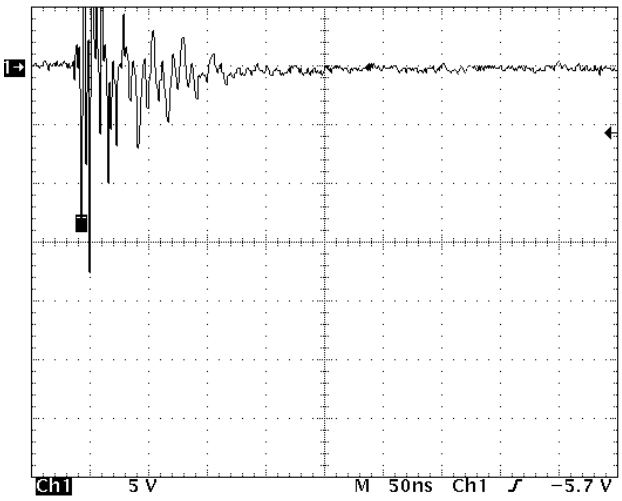


Figure 6. Clamped -8 kV ESD voltage waveform

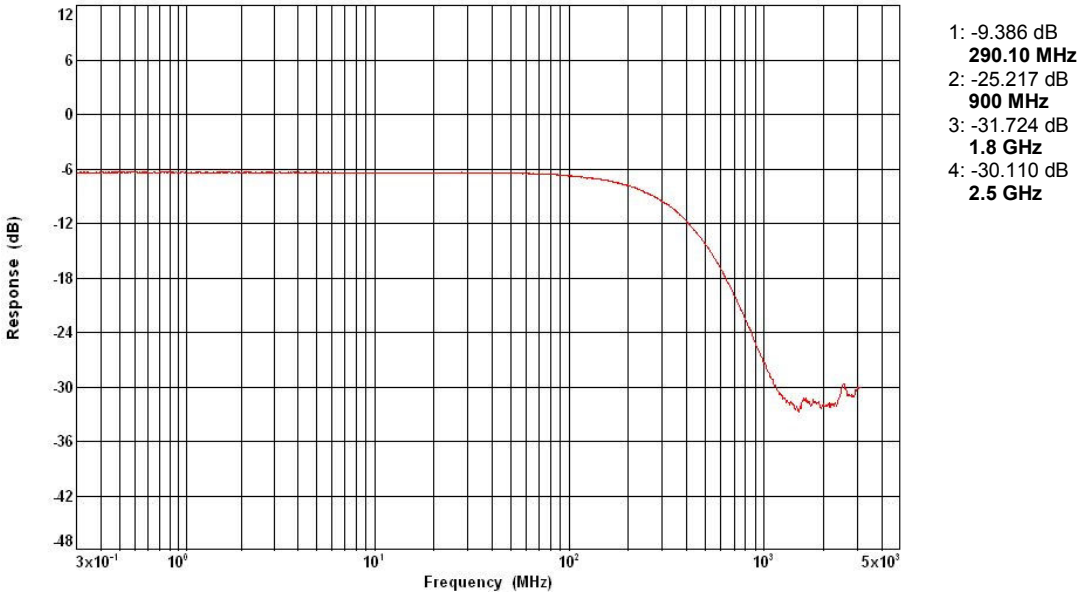


Figure 7. Typical Insertion Loss S21 (Each Line)

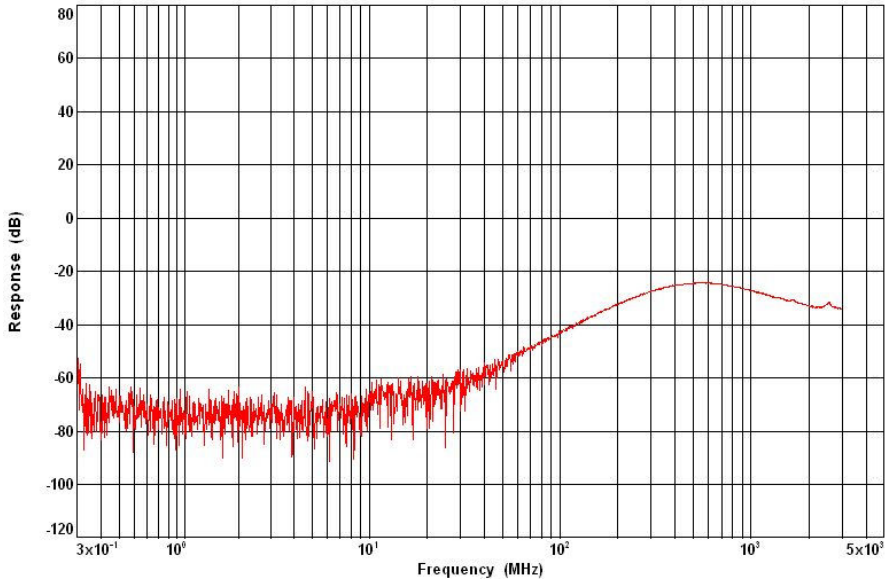


Figure 8. Analog Crosstalk (Each Line)

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