LITE-ON SEMICONDUCTOR

LEF01016F6-2

ESD/EMI PROTECTION DEVICE

STAND-OFF VOLTAGE - **5.0** Volts

GENERAL DESCRIPTION

The LEF01016F6-2 is a low pass filter array with integrated TVS diodes for ESD protection. It is designed to provide bidirectional filtering of EMI/RFI signals and 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 use on a speaker port in cellular phones and other portable electronics.

FEATURES

- Bidirectional EMI/RFI filter with integrated ESD protection
- Protects two I/O lines
- IEC 61000-4-2, level 4 (ESD), > ±15KV (air) ; > ±8KV (contact)

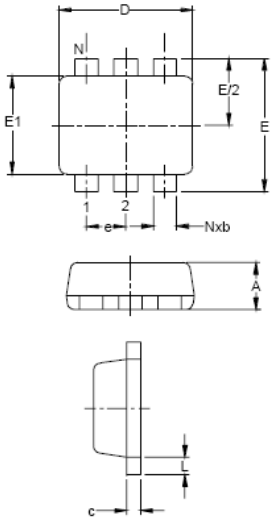
APPLICATION

- Cellular Handsets & Accessories
- Cordless Phones
- Personal Digital Assistants (PDAs)
- Webpads & Handhelds
- Notebook
- Portable Instrumentation
- MP3 Players

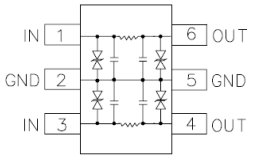
MECHANICAL DATA

- 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

SOT-563



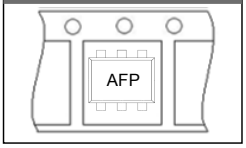
SOT-563		
DIM.	MIN.	MAX.
A	0.50	0.60
b	0.15	0.30
c	0.10	0.18
D	1.50	1.70
E	1.55	1.70
E1	1.10	1.25
e	0.50 BSC	
L	0.10	0.30
All Dimensions in millimeter		



Pin Assignment (Top Side View)

PIN ASSIGNMENT	
1	Line 1 In (From Speaker)
6	Line 1 Out (To Audio Circuit)
3	Line 2 In (From Speaker)
4	Line 2 Out (To Audio Circuit)
2, 5	Ground

Marking & Orientation



MAXIMUM RATINGS (Tj= 25℃ unless otherwise noticed)

Rating	Symbol	Value	Unit
DC Power per Resistor	P	100 (Max)	mW
Operating Junction Temperature Range	T_J	-55 to + 125	℃
Storage Temperature Range	Tstg	-55 to + 150	℃
Soldering Temperature, t max = 10s	T_L	260	℃

ELECTRICAL CHARACTERISTICS (Tj= 25℃ unless otherwise noticed)

Parameter	Symbol	Conditions	Mln	Typ	Max	Unit
TVS Reverse Stand-Off Voltage	V_{RWM}				5	V
TVS Reverse Breakdown Voltage	V_{BR}	I_R = 1 mA	6			V
TVS Reverse Leakage Current	I_{RM}	V_{DRM} = 5V			5	μA
Series Resistance	R	Each Line	8.5	10	11.5	Ohms
Capacitance	C_J	Any I/O to Ground, VR = 0V, f = 1MHz			160	pF

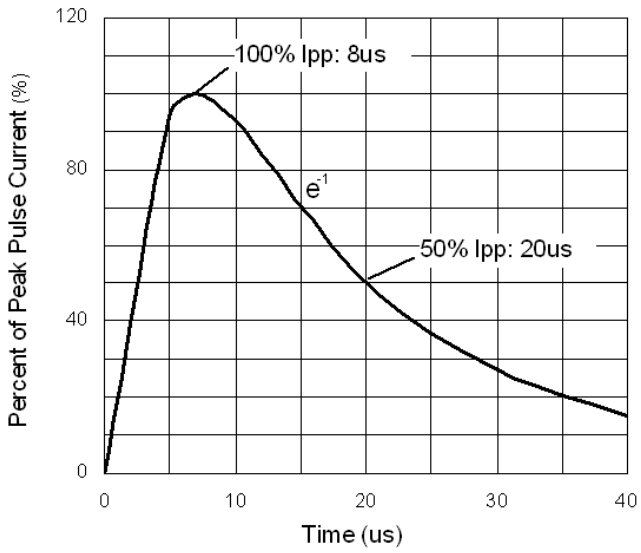


Figure 1. 8/20 us pulse waveform according to IEC 61000-4-5

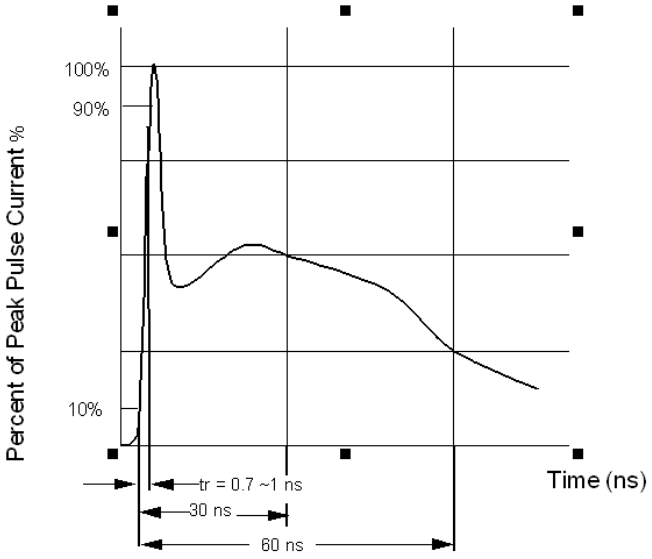


Figure 2. ESD pulse waveform according to IEC 61000-4-2

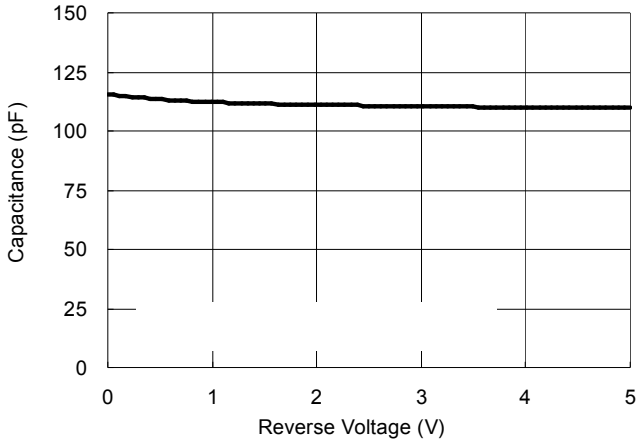


Figure 3. Typical Junction Capacitance

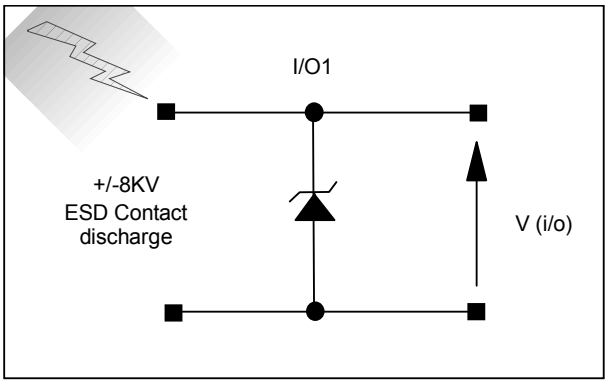


Figure 4. ESD Test Configuration

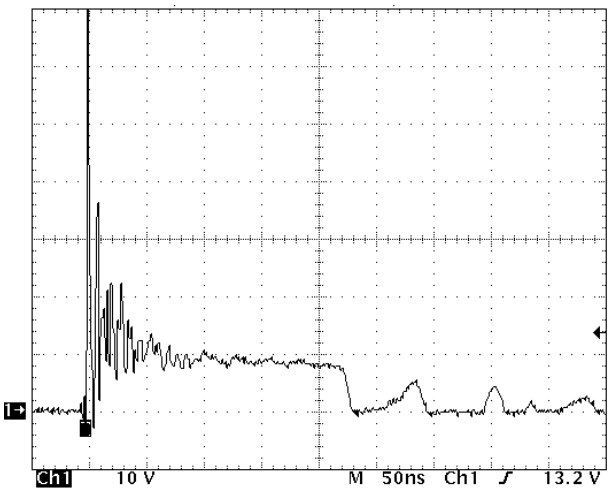


Figure 5. Clamped +8 kV ESD voltage waveform

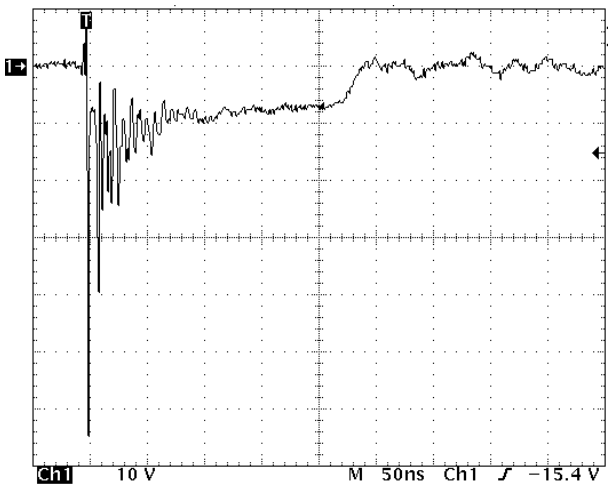


Figure 6. Clamped -8 kV ESD voltage waveform

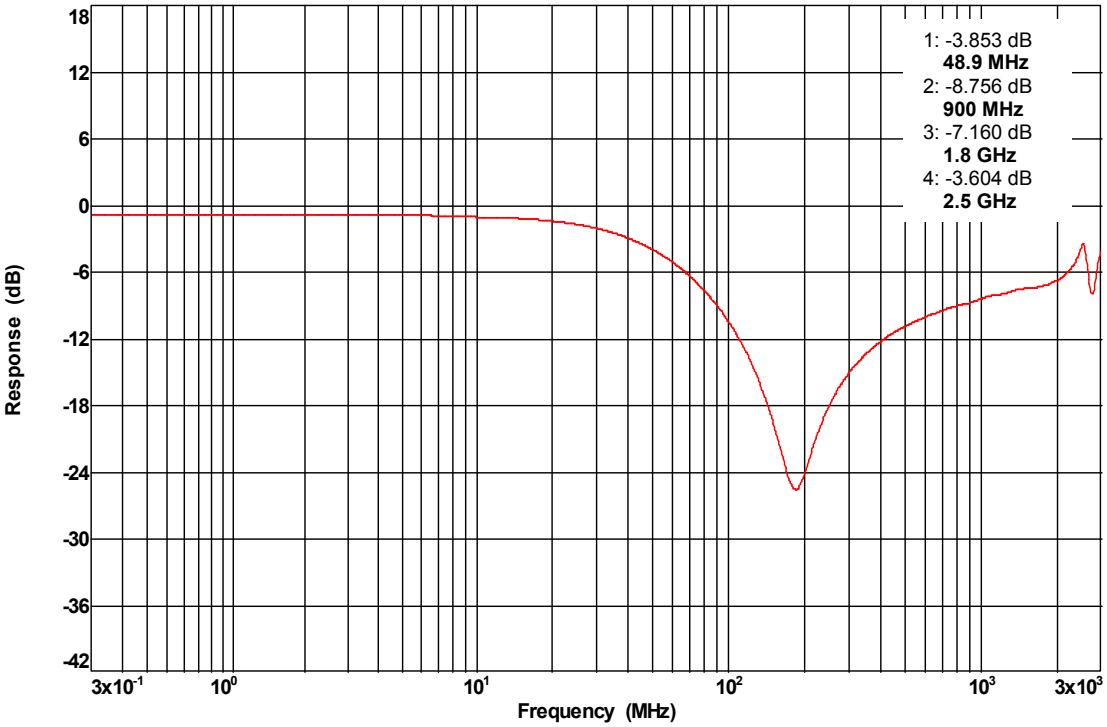


Figure 7. Typical Insertion Loss S21 (Each Line)

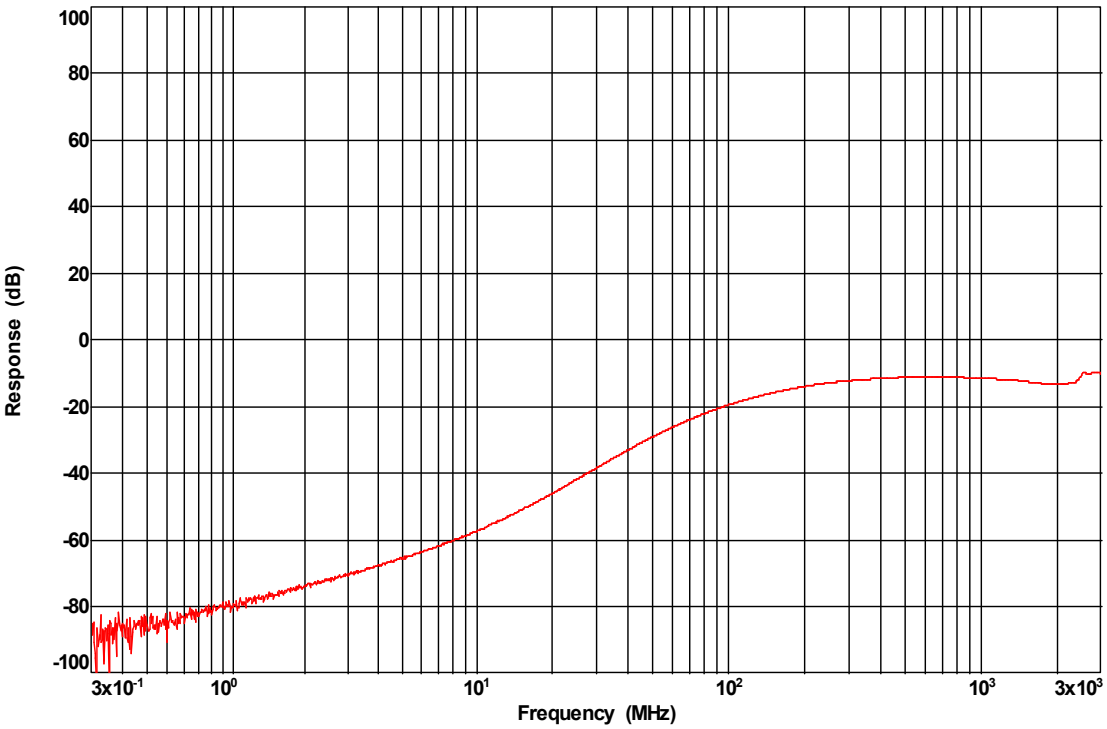


Figure 8. Analog Crosstalk (Each Line)

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