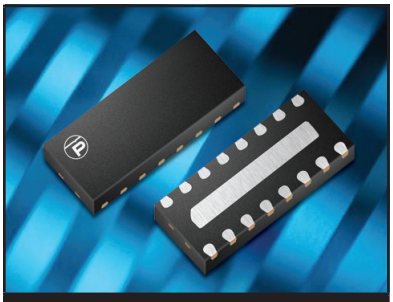
EMI FILTER/TVS ARRAY



DFN-16 PACKAGE

DESCRIPTION

The EM1631-08DSLP is a DFN-16, 8 line low pass filter array with integrated TVS diodes. The EM1631-08DSLP is designed to suppress unwanted EMI/RFI signals and provide ESD protection for high-speed data interfaces such as LCD displays and camera imagers for SMART phones.

With a desired cutoff frequency of 110MHz, the EM1631-08DSLP provides good EMI/RFI attenuation better than 35dB in the 800MHz - 3GHz bandwidth. This blocks RF noises from GSM, DCS or Bluetooth which can affect the baseband chipset and other blocks. Coupled with the integrated TVS diodes, this device is able to meet IEC 61000-4-2 (ESD) and 61000-4-4 (EFT) immunity requirements.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- ESD Protection > 25 kilovolts
- EMI Filtering/TVS Low Pass Filters
- >25dB Attenuation from 800MHz to 3GHz
- Protects up to 8 Data Lines
- RoHS Compliant
- REACH Compliant

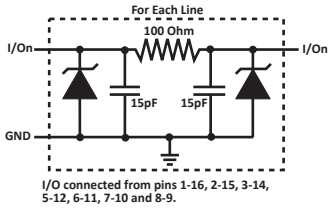
APPLICATIONS

- SMART Phones
- LCD Display Panel
- Portable Electronics
- SMART Cards

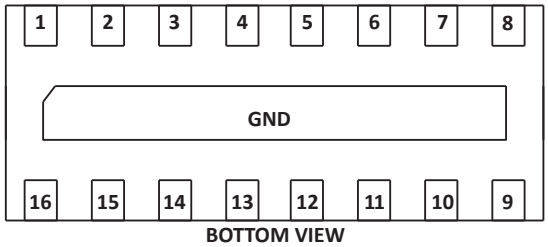
MECHANICAL CHARACTERISTICS

- Molded JEDEC DFN-16SLP (Low Profile) Package
- Approximate Weight: 7 milligrams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
  Pure-Tin - Sn, 100: 260-270°C
- 12mm Tape and Reel Per EIA Standard 481
- Flammability Rating UL 94V-0

CIRCUIT DIAGRAM & PIN CONFIGURATION



I/O connected from pins 1-16, 2-15, 3-14, 5-12, 6-11, 7-10 and 8-9.



BOTTOM VIEW

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	**SYMBOL**	**VALUE**	**UNITS**
Operating Temperature	T_A	-40 to 85	°C
Storage Temperature	T_{STG}	-55 to 150	°C
DC Power per Resistor	P	100	mW
Typical Resistance ±20%	R	100	OHMs
Soldering Temperature for 10 seconds	T_L	265	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM REVERSE LEAKAGE CURRENT @ 3V I_D µA	TYPICAL FORWARD VOLTAGE @ 10mA V_F VOLTS	MINIMUM ATTENUATION @ 800-3000 MHz dB	CUT-OFF FREQUENCY (50 OHMS I/O) ZERO BIAS fC MHz	TYPICAL CAPACITANCE @2.5V, 1MHz C pF
EM1631-08DSLP	168S	5.0	6.0	0.1	0.8	25	110	30

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
INSERTION LOSS

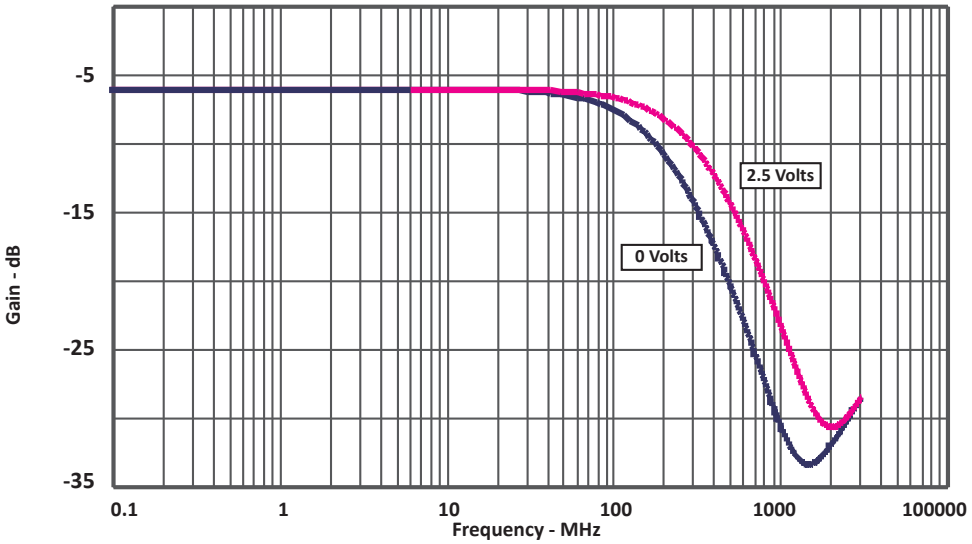
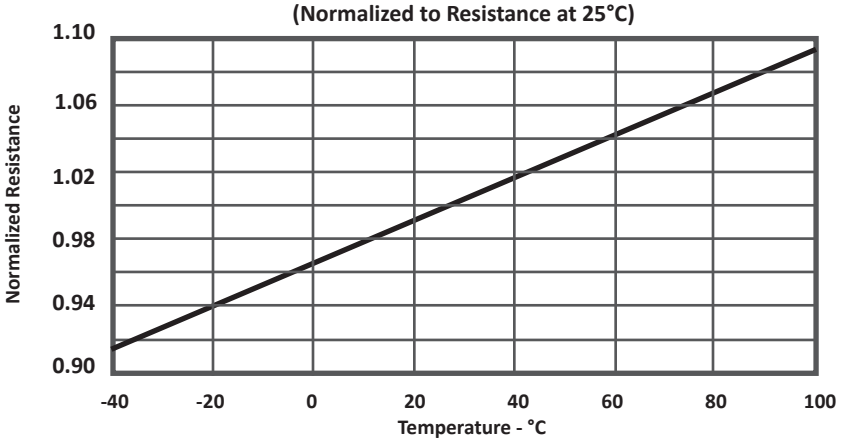


FIGURE 2
RESISTANCE VS TEMPERATURE
(Normalized to Resistance at 25°C)



TYPICAL DEVICE CHARACTERISTICS

FIGURE 3
CAPACITANCE VS REVERSE VOLTAGE
(Normalized to Capacitance at 2.5V DC @ 25°C)

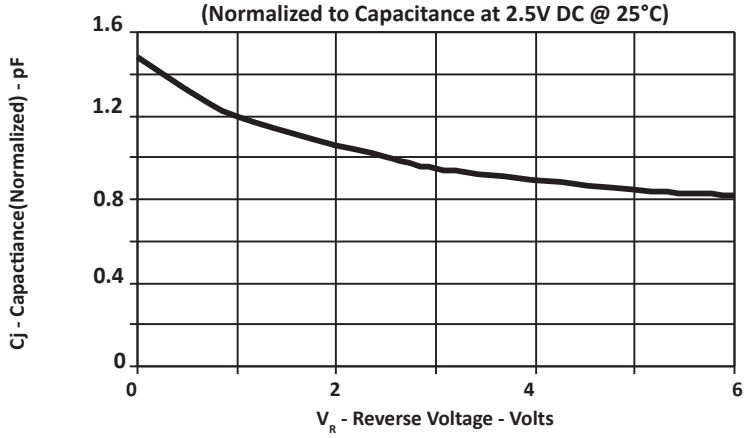
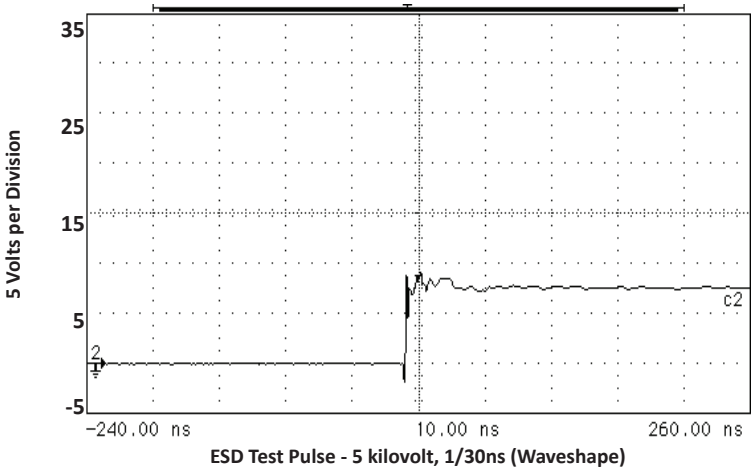


FIGURE 4
OVERSHOOT & CLAMPING VOLTAGE (Through the Filter)

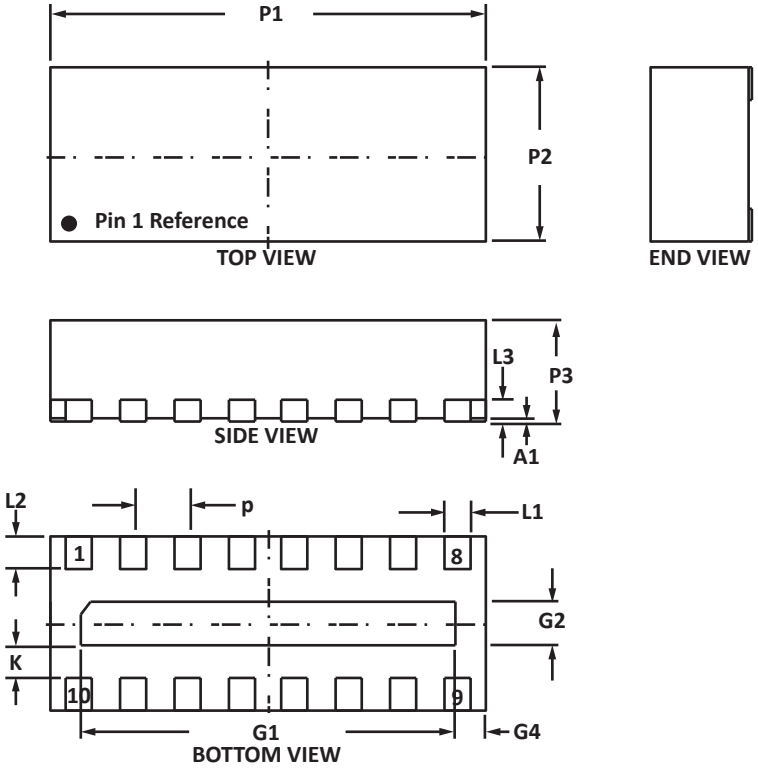


ESD Test Pulse - 5 kilovolt, 1/30ns (Waveshape)

DFN-16SLP(LOW PROFILE) PACKAGE INFORMATION

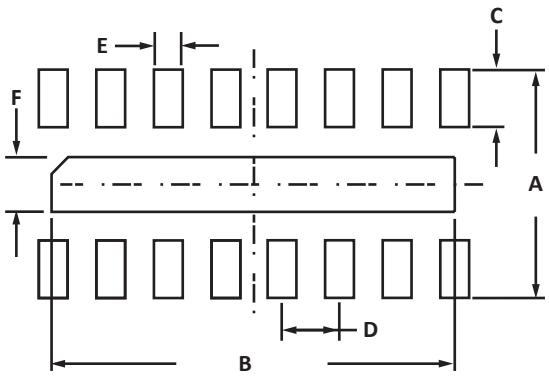
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
P1	3.20	3.40	0.126	0.134
P2	1.25	1.45	0.049	0.057
P3	0.45	0.60	0.018	0.024
L1	0.19	0.28	0.007	0.011
L2	0.23	0.30	0.009	0.012
L3	0.13	0.18	0.005	0.007
p	0.40 BSC		0.016 BSC	
G1	2.70	2.90	0.106	0.114
G2	0.35	0.45	0.014	0.018
G4	0.25	0.35	0.010	0.014
A1	0.00	0.05	0.00	0.002
K	0.33	0.40	0.013	0.016

NOTES
1. Controlling dimension: millimeters.
2. Dimensioning and tolerances per ANSI Y14.M, 1985.
3. Dimension L1 applies to terminal and is measured between 0.25 and 0.30mm from terminal.
4. Coplanarity applies to the exposed pad as well as the terminals.

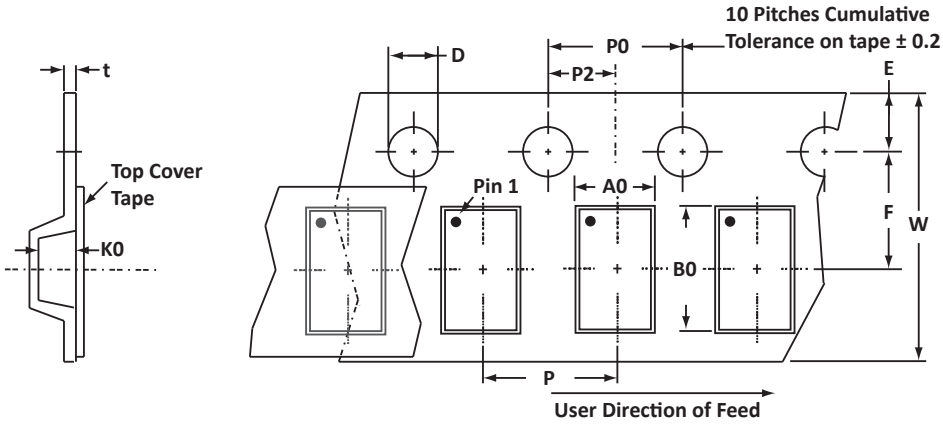


PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.56	1.76	0.061	0.069
B	2.10	2.30	0.083	0.091
C	0.51	0.61	0.020	0.024
D	0.40 BSC		0.016 BSC	
E	0.25	0.35	0.010	0.014
F	0.20	0.30	0.008	0.012

NOTES
1. Controlling dimension: millimeters.



TAPE AND REEL



SPECIFICATIONS												
REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	12mm	1.60 ± 0.10	3.6 ± 0.10	0.60 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	5.50	12.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.30 ± 0.05

NOTES
1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Suffix - T73 = 7" Reel - 3,000 pieces per 8mm tape.
4. Marking on Part - marking code (see page 2) and polarity dot.

Package outline, pad layout and tape specifications per document number 06081.R0 3/11.

ORDERING INFORMATION					
BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
EM1631-08DSLP	-LF	-T73	3,000	7"	n/a

COMPANY INFORMATION

COMPANY PROFILE

ProTek Devices, based in Tempe, Arizona USA, is a manufacturer of Transient Voltage Suppression (TVS) products designed specifically for the protection of electronic systems from the effects of lightning, Electrostatic Discharge (ESD), Nuclear Electromagnetic Pulse (NEMP), inductive switching and EMI/RFI. With over 25 years of engineering and manufacturing experience, ProTek designs TVS devices that provide application specific protection solutions for all electronic equipment/systems.

ProTek Devices Analog Products Division, also manufactures analog interface, control, RF and power management products.

CONTACT US

Corporate Headquarters
2929 South Fair Lane
Tempe, Arizona 85282
USA

By Telephone
General: 602-431-8101
Sales: 602-414-5109
Customer Service: 602-414-5114

By Fax
General: 602-431-2288

By E-mail:
Sales: sales@protekdevices.com
Customer Service: service@protekdevices.com
Technical Support: support@protekdevices.com

Web
www.protekdevices.com
www.protekanalog.com

COPYRIGHT © ProTek Devices 2005 - This literature is subject to all applicable copyright laws and is not for resale in any manner.

SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice.

DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance. ProTek assumes no responsibility with respect to the selection or specifications of such products. ProTek makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ProTek assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability without limitation special, consequential or incidental damages.

LIFE SUPPORT POLICY: ProTek Devices products are not authorized for use in life support systems without written consent from the factory.