



# EM6D-100L

## EMI FILTER/TVS ARRAY

### APPLICATIONS

- ✓ Cellular Phones
- ✓ Color LCD Display Panel
- ✓ Notebooks
- ✓ Personal Digital Assistant (PDA)
- ✓ Ground Positioning System (GPS)
- ✓ SMART Cards

### IEC COMPATIBILITY (EN61000-4)

- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

### FEATURES

- ✓ ESD Protection > 25 kilovolts
- ✓ EMI Filtering/TVS Low Pass Filters
- ✓ Blocking Rectifier
- ✓ > 25db Attenuation from 800MHz to 3GHz
- ✓ Protects up to Six(6) Data Lines
- ✓ RoHS Compliant

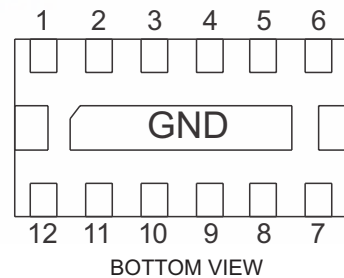
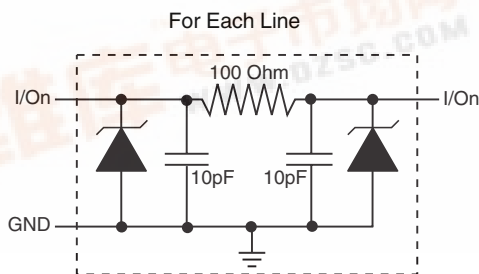
### MECHANICAL CHARACTERISTICS

- ✓ DFN-12 Package
- ✓ Available in Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- ✓ Consult Factory For Leaded Device Availability
- ✓ Flammability Rating UL 94V-0
- ✓ Device Marking: Marking Code
- ✓ 8mm Tape and Reel Per EIA Standard 481



DFN-12

### PIN CONFIGURATION



Note: I/O connected from pins 1-12, 2-11, 3-10, 4-9, 5-8 and 6-7.



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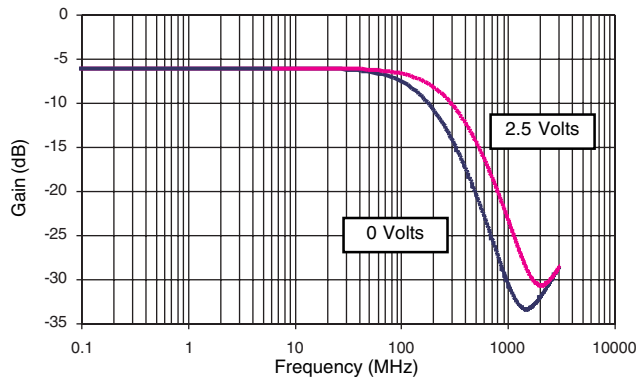
## DEVICE CHARACTERISTICS

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	400	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 CODE	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM REVERSE LEAKAGE CURRENT  @ 3V $I_b$ $\mu A$	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 (See Note 1)  @ 2.5V, 1MHz C pF
EM6D-100L	M6D10L	5.0	6.0	0.1	0.8	25	150	20

Note 1: 32pF @ 0V, 1MHz, ± 20% tolerance.

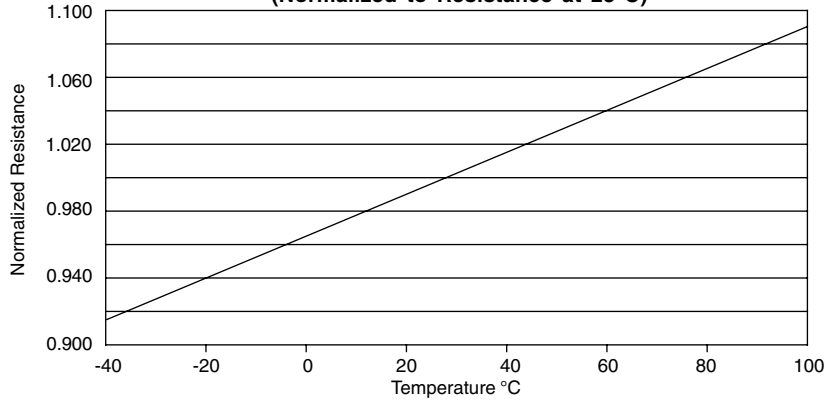
FIGURE 1  
INSERTION LOSS



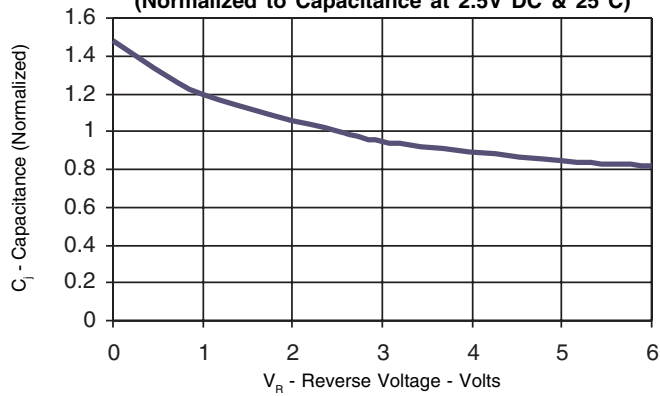
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## GRAPHS

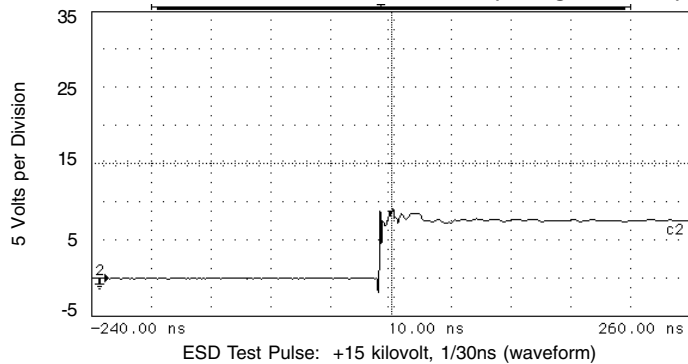
**FIGURE 1**  
**RESISTANCE VS TEMPERATURE**  
(Normalized to Resistance at 25°C)



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

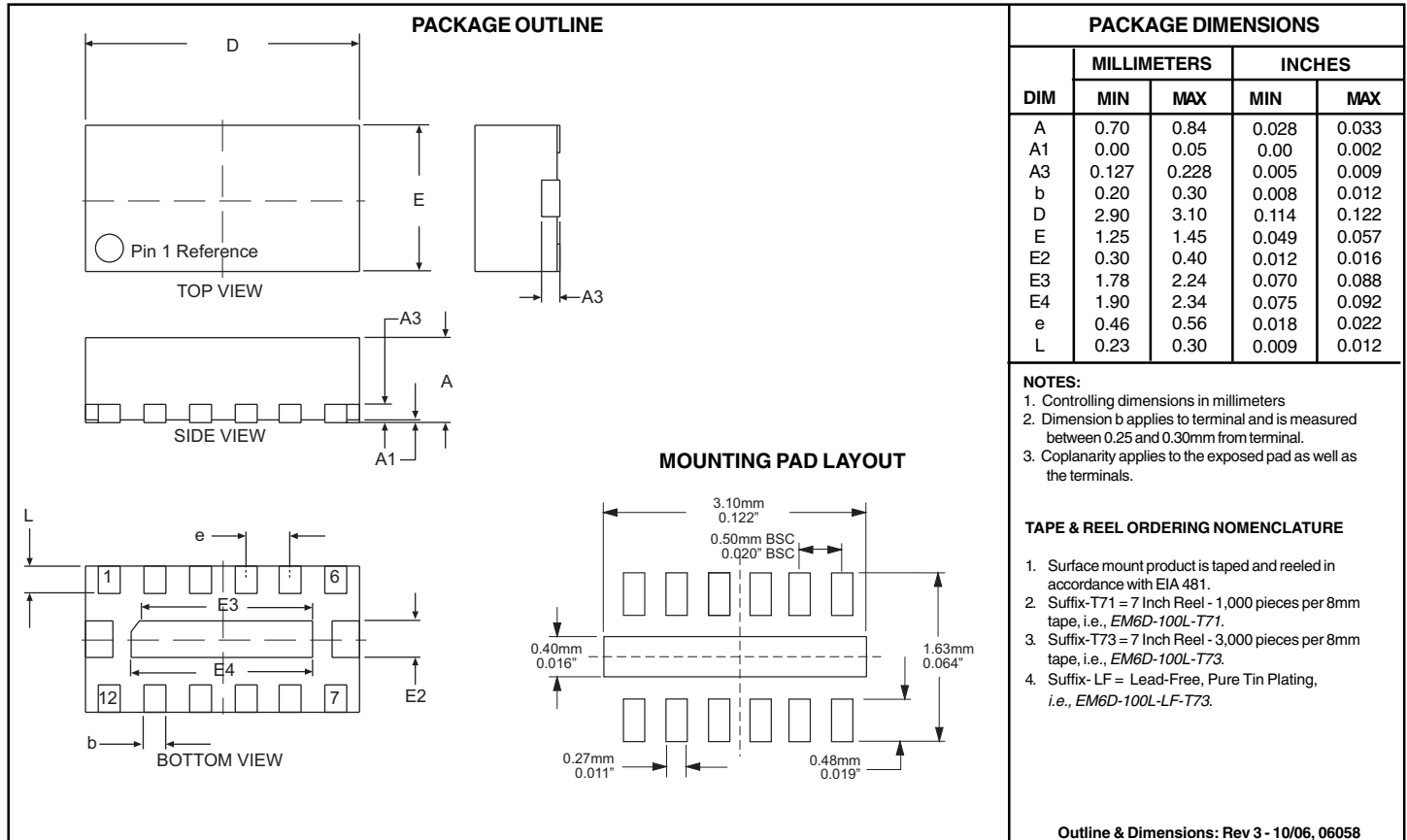


**FIGURE 4**  
**OVERSHOOT & CLAMPING VOLTAGE (through the filter)**



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## DFN-12 PACKAGE OUTLINE & DIMENSIONS



Tape & Reel Specifications (Dimensions in millimeters)

Reel Dia.	Tape Width	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")/330mm (13")	8mm	1.60 ± 0.10	3.25 ± 0.10	0.95 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.25

