

EM4D-100L

EMI FILTER/TVS ARRAY

APPLICATIONS

Integrated I/O Protection & Filtering Solutions For:

- ✓ 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
- ✓ > 25db Attenuation from 800MHz to 3GHz
- ✔ Protects Up to Four(4) Data Lines
- ✔ RoHS Compliant in Lead-Free Versions

MECHANICAL CHARACTERISTICS

✔ DFN-8 Package

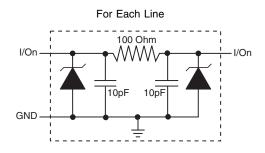
05236.R3 1/06

- ✔ Available in Tin-Lead or Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:

Tin-Lead - Sn/Pb, 85/15: 240-245°C Pure-Tin - Sn, 100: 260-270°C

- ✓ Flammability rating UL 94V-0
- ✓ Device Marking: Marking Code
- ✓ 8mm Tape and Reel Per EIA Standard 481

PINCONFIGURATION



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



GND

BOTTOM VIEW

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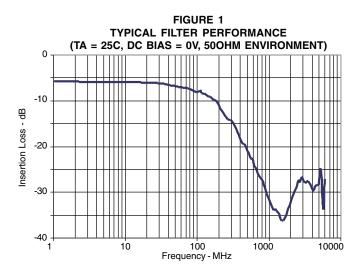
8

DEVICE CHARACTERISTICS

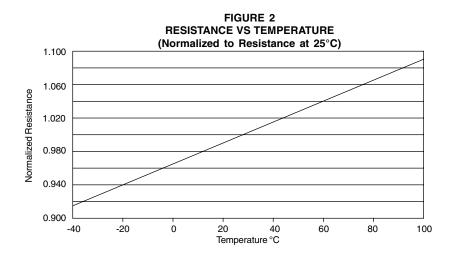
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified						
PARAMETER	SYMBOL	VALUE	UNITS			
Operating Temperature	T_{J}	-40°C to 85°C	°C			
Storage Temperature	T _{STG}	-55°C to 150°C	°C			
DC Power Per Resistor	Р	400	mW			
Typical Resistance @ ± 20%	R	100	OHMS			
Soldering Temperature for 10 seconds	T _L	265°C	°C			

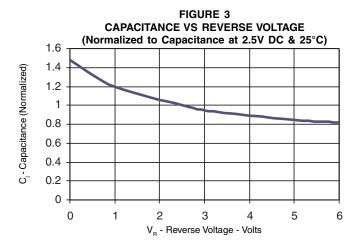
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified								
PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM REVERSE LEAKAGE CURRENT	TYPICAL FORWARD VOLTAGE	MINIMUM ATTENUATION	CUT-OFF FREQUENCY (50 OHMS I/O) ZERO BIAS	TYPICAL CAPACITANCE PER LINE (See Note 1)
		V _{vv} VOLTS	@ 1mA V _(BR) VOLTS	@ 3V Ι _D μΑ	@10mA V _F VOLTS	@ 800-3000 MHz dB	fc MHz	@2.5V, 1MHz C pF
EM4D-100L	M4D10L	5.0	6.0	0.1	0.8	25	150	20

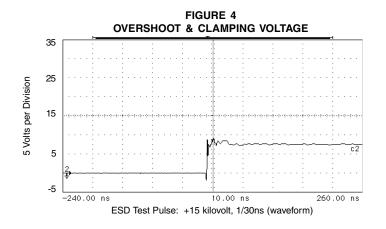
Note 1: 30pF @ 0V, 1MHz, ±20% tolerance.



GRAPHS









PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE D Pin 1 Reference TOP VIEW АЗ SIDE VIEW D2 E2 8 **BOTTOM VIEW**

PACKAGE DIMENSIONS

	MILLIM	IETERS	INCHES		
DIM	MIN	MAX	MIN	MAX	
Α	0.80	0.90	0.031	0.035	
A1	0.00	0.05	0.00	0.002	
A3	0.178	0.228	0.007	0.009	
b	0.20	0.30	0.008	0.012	
D	1.95	2.05	0.077	0.081	
D2	1.50	1.50	0.059	0.059	
Е	1.95	2.05	0.077	0.081	
E2	0.55	0.65	0.022	0.026	
е	0.50	0.50	0.020	0.020	
K	1.20	1.21	0.047	0.048	
L	0.30	0.40	0.012	0.016	

NOTES:

- 1. Controlling dimensions in millimeters
- 2. Dimension b applies to terminal and is measured between 0.25 and 0.30mm from
- 3. Coplanarity applies to the exposed pad as well as the terminals.

TAPE & REEL ORDERING NOMENCLATURE

- 1. Surface mount product is taped and reeled in accordance with EIA 481.
- 2. Suffix-T71 = 7 Inch Reel 1,000 pieces per 8mm tape, i.e., *EM4D-100L-T71*.
- 3. Suffix-T73 = 7 Inch Reel 3,000 pieces per 8mm tape, i.e., EM4D-100L-T73.
- 4. Suffix LF = Lead-Free, Pure Tin Plating, i.e., EM4D-100L-LF-T73.

Outline & Dimensions: Rev 0 - 12/04, 06057

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