

## APPLICATIONS

- ✓ Cellular Phones
- ✓ 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

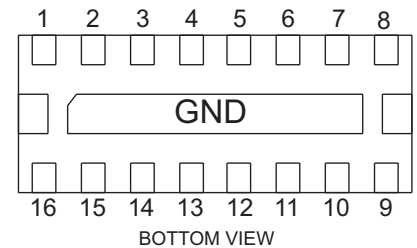
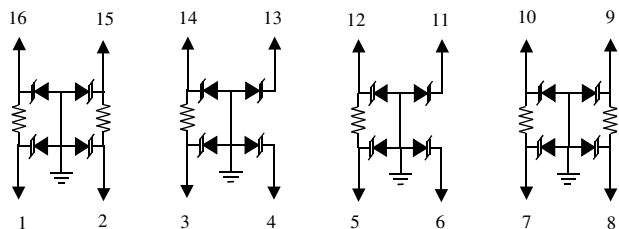
- ✓ ESD Protection > 25 kilovolts
- ✓ EMI Filtering/TVS Low Pass Filters
- ✓ > 25db Attenuation from 800MHz to 3GHz
- ✓ Protects up to Six(6) Data Lines
- ✓ RoHS Compliant

## MECHANICAL CHARACTERISTICS

- ✓ DFN-16 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



## PIN CONFIGURATION



# EM6D-100-4D

## DEVICE CHARACTERISTICS

### MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

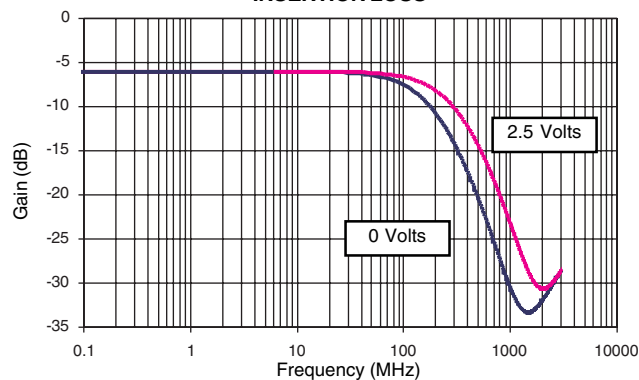
PARAMETER	SYMBOL	VALUE	UNITS
Operating Temperature	$T_j$	-40 to 85	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C
DC Power Per Resistor	P	400	mW
Resistance @ $\pm 20\%$	R	100	OHMS
Soldering Temperature for 10 seconds	$T_L$	265	°C

### 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 PER DIODE (See Note 1) @ 2.5V, 1MHz C pF
EM6D-100-4D	M6D-4D	5.0	6.0	0.1	1.2	25	150	10

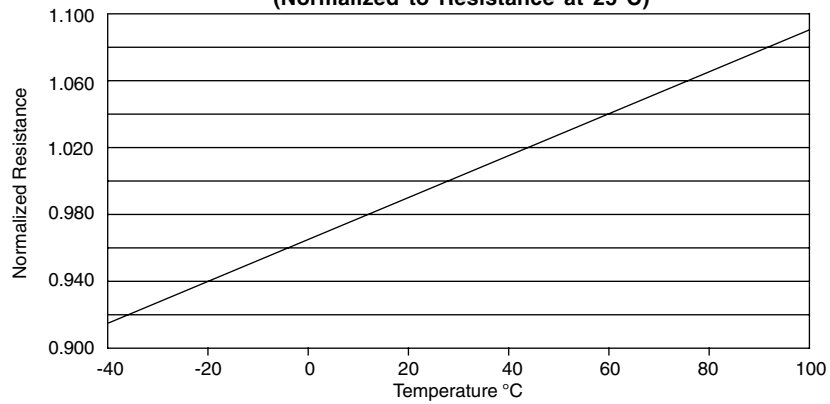
**Note 1:** 18pF @ 0V, 1MHz,  $\pm 20\%$  tolerance.

**FIGURE 1  
INSERTION LOSS**

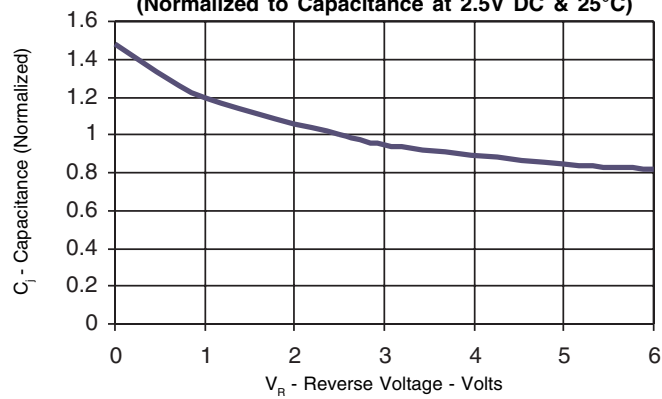


## GRAPHS

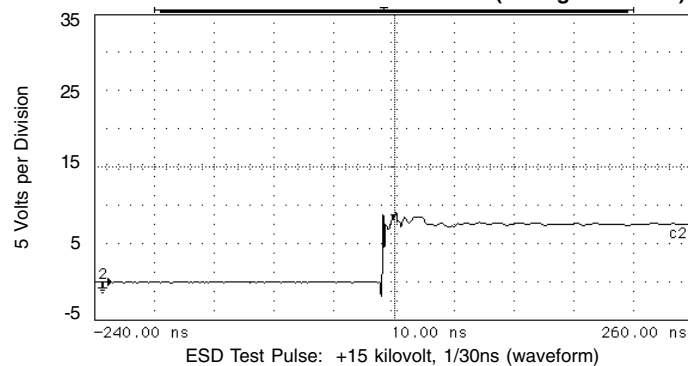
**FIGURE 1**  
**RESISTANCE VS TEMPERATURE**  
**(Normalized to Resistance at 25°C)**



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



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



# EM6D-100-4D

## DFN-16 PACKAGE OUTLINE & DIMENSIONS

### PACKAGE OUTLINE

### MOUNTING PAD LAYOUT

### PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.74	0.84	0.029	0.033
A1	0.00	0.05	0.00	0.002
A3	0.178	0.228	0.007	0.009
b	0.21	0.28	0.008	0.011
D	3.91	4.11	0.154	0.162
E	1.50	1.70	0.059	0.067
E2	0.40	0.50	0.016	0.020
E3	2.92	3.18	0.115	0.125
E4	2.90	3.10	0.114	0.122
e	0.46	0.56	0.018	0.022
K	0.33	0.40	0.130	0.160
L	0.23	0.30	0.009	0.012

**NOTES:**

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

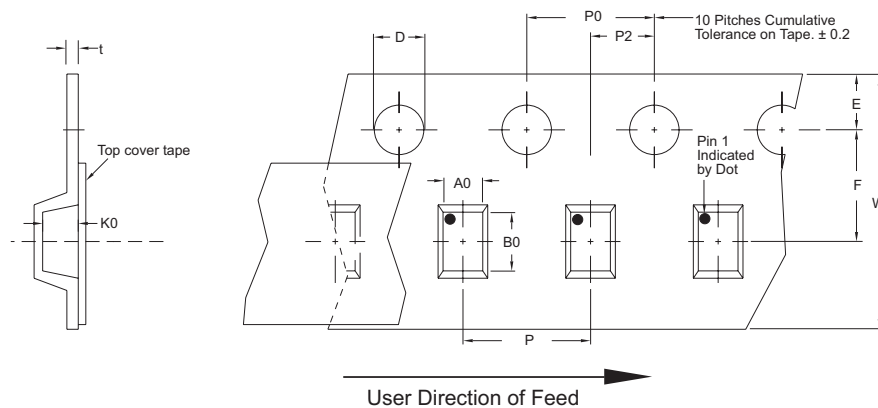
**TAPE & REEL ORDERING NOMENCLATURE**

- Surface mount product is taped and reeled in accordance with EIA 481.
- Suffix-T7 = 7 Inch Reel - 3,000 pieces per 12mm tape, i.e., *EM6D-100-4D-T7*
- Suffix-T13 = 13 Inch Reel - 12,000 pieces per 12mm tape, i.e., *EM6D-100-4D-T13*
- Suffix -LF = Lead-Free, Pure-Tin Plating, i.e., *EM6D-100L-4D-LF-T7*.

**Outline & Dimensions: Rev 2 - 10/06, 06056**

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")	12mm	1.9± 0.10	4.30± 0.10	1.00 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	12.00 ±0.30	4.00 ±0.10	2.00 ±0.05	4.00 ±0.10	0.25



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