# 8-C EMIF A ESD P

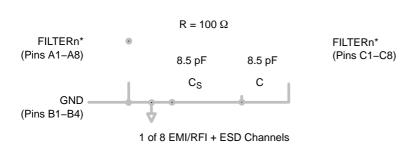
#### **Features**

- Eight Channels of EMI Filtering for Data Ports
- Pi-Style EMI Filters in a Capacitor-Resistor-Capacitor (C-R-C) Network
- ±15 kV ESD Protection on Each Channel (IEC 61000–4–2 Level 4, Contact Discharge)
- ±30 kV ESD Protection on Each Channel (HBM)
- Chip Scale Package (CSP) Features Extremely Low Lead Inductance for Optimum Filter and ESD Performance
- 20-Bump; 0.4 mm Pitch, 3.160 x 1.053 mm Footprint
- OptiGuard<sup>™</sup> Coating for Improved Reliability at Assembly
- These Devices are Pb-Free and are RoHS Compliant

#### **Applications**

• EMI Filtering and ESD Protection for Both Data and I/O Ports

\_



<sup>\*</sup>See Package/Pinout Diagrams for expanded pin information.

Device Package Shipping

#### **PACKAGE / PINOUT DIAGRAMS**

Top View (Bumps Down View)			Bottom View (Bumps Up View)
		D	
	CM1443-08CP		

# Table 4. ELECTRICAL OPERATING CHARACTERISTICS (Note 1)

Symbol	Parameter	Conditions	Min	Тур	Max	Units
R	Resistance		80	100	120	Ω
C <sub>T</sub>	Total Capacitance	At 2.5 V DC	14	17	21	pF
C <sub>S</sub>	Single Capacitor	At 2.5 V DC		8.5		pF
TCR	Temperature Coefficient of Resistance			1200		ppm/°C
TCC	Temperature Coefficient of Capacitance	At 2.5 V DC		-300		ppm/°C
V <sub>DIODE</sub>	Diode Voltage (reverse bias)					

# PERFORMANCE INFORMATION (Cont'd)

Typical Filter Performance ( $T_A = 25^{\circ}C$ , DC Bias = 0 V, 50  $\Omega$  Environment)

So. 100 MAG 5 dB/ DEF 0 dB. . . 41 -5 ... 022 dB

Figure 2. Insertion Loss vs. Frequency (A1-C1 to GND B1)

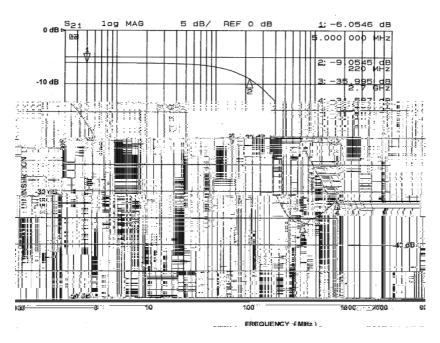


Figure 3. Insertion Loss vs. Frequency (A2-C2 to GND B1)

# PERFORMANCE INFORMATION (Cont'd)

# Typical Filter Performance ( $T_A = 25^{\circ}C$ , DC Bias = 0 V, 50 $\Omega$ Environment)

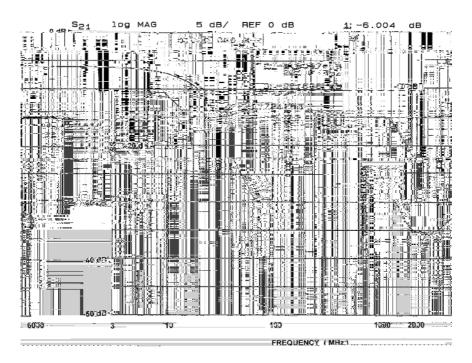


Figure 4. Insertion Loss vs. Frequency (A3-C3 to GND B2)

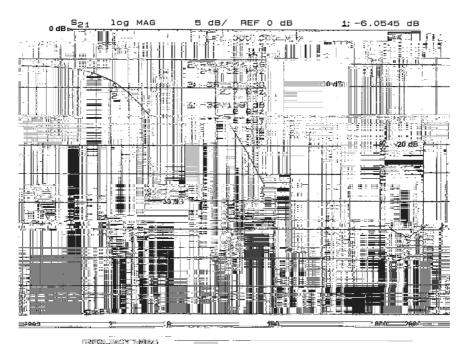


Figure 5. Insertion Loss vs. Frequency (A4-C4 to GND B2)

# PERFORMANCE INFORMATION (Cont'd)

Typical Filter Performance ( $T_A = 25^{\circ}C$ , DC Bias = 0 V, 50  $\Omega$  Environment)

Figure 8. Insertion Loss vs. Frequency (A7-C7 to GND B4)

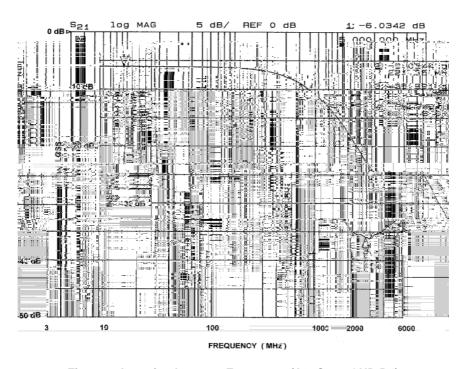


Figure 9. Insertion Loss vs. Frequency (A8-C8 to GND B4)

# PERFORMANCE INFORMATION (Cont'd)

Typical Filter Performance ( $T_A = 25^{\circ}C$ , DC Bias = 0 V, 50  $\Omega$  Environment)

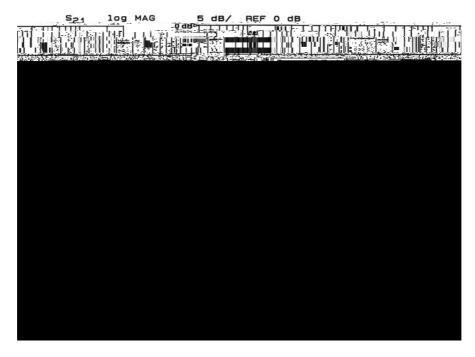


Figure 10. Comparison of Filter Response Curves for CM1443 vs. DC Bias

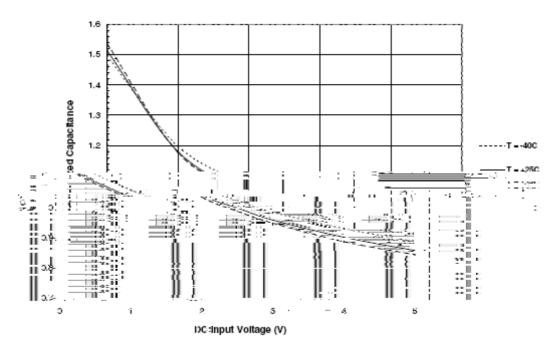
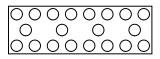


Figure 11. Filter Capacitance vs. Input Voltage over Temperature (normalized to capacitance at 2.5 VDC and 25°C)

 $\infty \infty$ 



onsemi

