# 6 and 8-Channel Low Capacitance ESD Arrays

**Product Description** 

The CM1216 family of diode arrays provide sESD protection for electronic components or sub-systems requiring minimal capacitive

#### PACKAGE / PINOUT DIAGRAMS

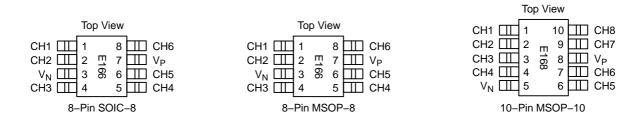


Table 1. PIN DESCRIPTIONS

Pin Name	MSOP-8	SOIC-8	MSOP-10	Туре	Description
	Pin No.	Pin No.	Pin No.		
CH1	1	1	1	I/O	ESD Channel
CH2	2	2	2	I/O	ESD Channel
СНЗ	4	4	3	I/O	ESD Channel
CH4	5	5	4	I/O	ESD Channel
V <sub>N</sub>	3	3	5	GND	Negative voltage supply rail
CH5	6	6	6	I/O	ESD Channel
CH6	8	8	7	I/O	ESD Channel
V <sub>P</sub>	7	7	8	PWR	Positive voltage supply rail
CH7	-	-	9	I/O	ESD Channel
CH8	_	_	10	I/O	ESD Channel

#### **SPECIFICATIONS**

emperature Rang. 9 580378.2614e2 r9T8 0 0 8 172.7433 447.533824(N)1029S 1 D Ch277433 447.533822 r9T29S 1 D Cha4nel

Table 4. ELECTRICAL OPERATING CHARACTERISTICS						

#### APPLICATION INFORMATION

#### **Design Considerations**

In order to realize the maximum protection against ESD pulses, care must be taken in the PCB layout to minimize parasitic series inductances on the Supply/Ground rails as well as the signal trace segment between the signal input (typically a connector) and the ESD protection device. Refer to Application of Positive ESD Pulse between Input Channel and Ground, which illustrates an example of a positive ESD pulse striking an input channel. The parasitic series inductance back to the power supply is represented by  $L_1$  and  $L_2$ . The voltage  $V_{\text{CL}}$  on the line being protected is:

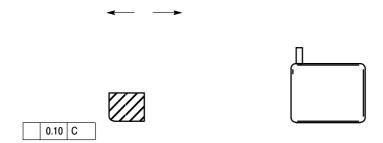
 $V_{CL} = Fwd \ voltage \ drop \ of \ D_1 + V_{SUPPLY} + L_1 \ x \ d(I_{ESD}) \ / \ dt + L_2 \ x \ d(I_{ESD}) \ / \ dt$ 

where I<sub>ESD</sub> is the ESD current pulse, and V<sub>SUPPLY</sub> is the positive supply voltage.

An ESD current pulse can rise from zero to its peak value in a very short time. As an example, a level 4 contact discharge per the IEC61000–4–2 standard results in a current pulse that rises from zero to 30 Amps in 1 ns. Here  $d(I_{ESD})/dt$  can be approximated by  $\Delta I_{ESD}/\Delta t$ , or 30/(1x10)

## PACKAGE DIMENSIONS

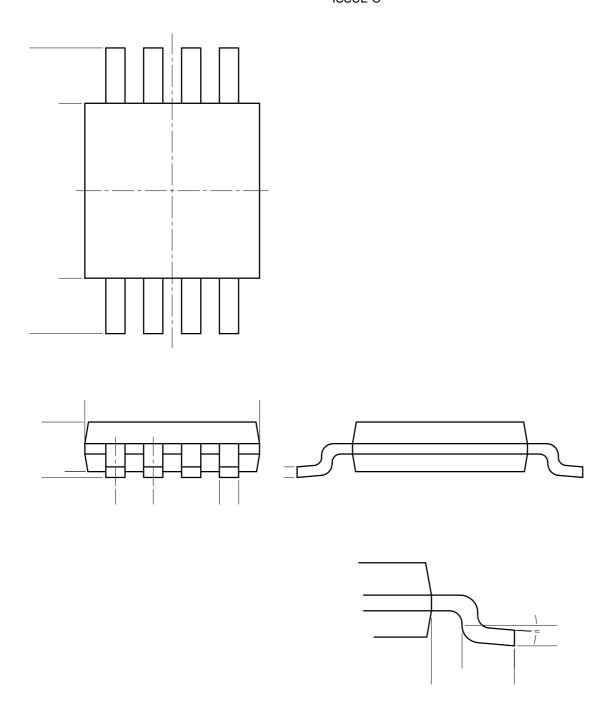
SOIC-8 EP CASE 751AC-01 ISSUE B





## PACKAGE DIMENSIONS

MSOP 8, 3x3 CASE 846AD-01 ISSUE O



## PACKAGE DIMENSIONS

MSOP 10, 3x3 CASE 846AE-01 ISSUE O

