

ESD Protection Arrays, ESD Protectors & EMI Filters

california micro devices

Transient Protection
CMD (California Micro Devices)

CMD LOW CAPACITANCE ESD ARRAYS

- Channel loading capacitance of 1.6 pF typical
- Channel I/O to GND capacitance difference of 0.04pF typical
- Mutual capacitance of 0.13pF typical
- Minimal capacitance change with temperature and voltage
- Each I/O pin can withstand over 1000 ESD strike
- Storage Temperature Range -40 to +150 °Cs

For quantities of 1000 and up, call for quote.

MOUSER STOCK NO.	CMD Part Number	Package	ESD Protection (IEC)	Price Each			
				1	10	50	100
CM1216 Series							
748-CM1216-06MR	CM1216-06MR	MSOP-8	±15kV	.96	.88	.80	.72
748-CM1216-06SM	CM1216-06SM	SOIC-8	±15kV	.96	.88	.80	.72
748-CM1216-08MR	CM1216-08MR	MSOP-10	±15kV	1.05	.96	.88	.79
CM1215 Series							
748-CM1215-01SO	CM1215-01SO	SOT23-3	±15kV	.51	.47	.43	.38

CMD 6 CHANNEL ESD PROTECTION ARRAY

- Six channels of ESD protection
- Low loading capacitance (3pF typical)
- Low leakage current is ideal for battery-powered devices
- Storage Temperature Range -65 to +150 °C
- Operating Temperature Range -40 to +85 °C

For quantities of 1000 and up, call for quote.

MOUSER STOCK NO.	CMD Part Number	Package	ESD Protection		Price Each			
			(IEC)	(HBM)	1	10	50	100
748-PACDN006MR	PACDN006MR	MSOP-8	±8kV	±15kV	.60	.55	.50	.45

CMD LOW CAPACITANCE ESD PROTECTION ARRAYS WITH BACKDRIVE PROTECTION: CM1223 SERIES

- 2, 4, and 8 channels of ESD protection with integrated backdrive protection on all lines
- Low channel input capacitance of 1.0pF typical
- Minimal capacitance change with temperature & voltage
- Channel I/O to Gnd capacitance difference of 0.02pF typical is ideal for differential signals
- Mutual capacitance between signal pin and adjacent signal pin - 0.11pF typical
- Zener diode protects supply rail and eliminates the need for external by-pass capacitors
- Pin compatible with CM1213-02, -04, and -08
- Each I/O pin can withstand over 1000 ESD strikes
- Storage Temperature Range -65 to +150°C
- Operating Temperature Range -40 to +85°C

For quantities of 1000 and up, call for quote.

MOUSER STOCK NO.	CMD Part Number	Package	ESD Protection (IEC)	Channels	Price Each			
					1	50	100	500
748-CM1223-02SR	CM1223-02SR	SOT143-4	±15kV	2	.51	.47	.43	.38
748-CM1223-04SO	CM1223-04SO	SOT23-6	±15kV	4	.54	.50	.45	.41

CMD PICO GUARD XS™ ESD CLAMP ARRAY FOR HIGH SPEED DATA LINE PROTECTION

- Greater than 40% reduction in peak clamping voltage
- 80% reduction in peak residual current
- Greater than 10% reduction in total energy reaching the protected device
- 100 Ohm differential impedance matching with no external compensation required
- Close matching between lines
- No Vp connection, eliminating backdrive and simplifying layout
- Compact 16 pin TDFN package for reduced board space



For quantities of 1000 and up, call for quote.

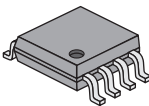
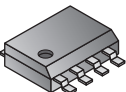
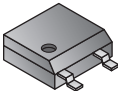
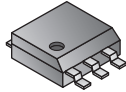
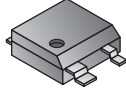
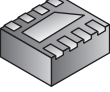
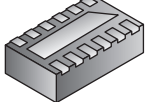
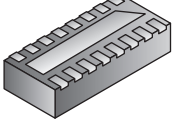
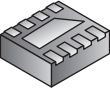
MOUSER STOCK NO.	CMD Part Number	Package	ESD Protection (IEC)	Channels	Price Each			
					1	50	100	500
748-CM1233-08DE	CM1233-08DE	TDFN-16	±8kV	4	.88	.79	.70	.67
748-CM1235-08DE	CM1235-08DE	TDFN-16	±8kV	4	.73	.66	.59	.56
748-CM1236-08DE	CM1236-08DE	TDFN-16	±8kV	4	.88	.79	.70	.67

CMD EMI FILTER ARRAYS WITH ESD PROTECTION

- Four, six, and eight channels of EMI filtering with integrated ESD protection
- Pi-style EMI filters in a capacitor-inductor-capacitor (C-L-C) network
- Pi-style EMI filters in a capacitor-resistor-capacitor (C-R-C) network
- Increased robustness against vertical impacts during manufacturing process
- Storage Temperature Range -65 to +150 °C
- Operating Temperature Range -40 to +85 °C

For quantities of 1000 and up, call for quote.

MOUSER STOCK NO.	CMD Part Number	Package	ESD Protection		Chan.	Pkg Size (mm)	Attenuation (dB)	Price Each			
			(IEC)	(HBM)				1	50	100	500
CM1460 Series											
748-CM1460-04DE	CM1460-04DE	TDFN-8	±15kV	±30kV	4	2 x 2	35	.48	.40	.32	.30
748-CM1460-06DE	CM1460-06DE	TDFN-12	±15kV	±30kV	6	3 x 1.35	35	.54	.45	.36	.34
748-CM1460-08DE	CM1460-08DE	TDFN-16	±15kV	±30kV	8	4 x 1.6	35	.57	.48	.38	.36
CM1690 Series											
748-CM1690-04DE	CM1690-04DE	uDFN-8	±15kV	±30kV	4	1.7 x 1.35	35	.27	.23	.18	.17
748-CM1690-06DE	CM1690-06DE	uDFN-12	±15kV	±30kV	6	2.5 x 1.35	35	.39	.33	.26	.25
748-CM1690-08DE	CM1690-08DE	uDFN-16	±15kV	±30kV	8	3.3 x 1.35	35	.48	.40	.32	.30
CM1461 Series											
748-CM1461-04DE	CM1461-04DE	TDFN-8	±15kV	±30kV	4	2 x 2	20	.30	.25	.20	.19
748-CM1461-06DE	CM1461-06DE	TDFN-12	±15kV	±30kV	6	3 x 1.35	20	.39	.33	.26	.25
748-CM1461-08DE	CM1461-08DE	TDFN-16	±15kV	±30kV	8	4 x 1.6	20	.42	.35	.28	.27
CM1430, CM1431 Series											
748-CM1431-06DE	CM1431-06DE	TDFN-12	±15kV	±30kV	6	2.5 x 1.35	35	.39	.33	.26	.25
748-CM1431-08DE	CM1431-08DE	TDFN-16	±15kV	±30kV	8	3.3 x 1.35	35	.39	.33	.26	.25
748-CM1431-04DE	CM1431-04DE	TDFN-8	±15kV	±30kV	4	1.7 x 1.35	35	.24	.20	.16	.15
748-CM1430-06DE	CM1430-06DE	TDFN-12	±15kV	±30kV	6	2.5 x 1.35	20	.39	.33	.26	.25
748-CM1430-08DE	CM1430-08DE	TDFN-16	±15kV	±30kV	8	3.3 x 1.35	20	.39	.33	.26	.25
748-CM1430-04DE	CM1430-04DE	TDFN-8	±15kV	±30kV	4	1.7 x 1.35	20	.24	.20	.16	.15
CM1409 Series											
748-CM1409-06DE	CM1409-06DE	TDFN-12	±15kV	±30kV	6	3 x 1.35	35	.30	.25	.20	.19
748-CM1409-08DE	CM1409-08DE	TDFN-16	±15kV	±30kV	8	4 x 1.6	35	.39	.33	.26	.25

MSOP-8	
SOIC-8	
SOT23-3	
SOT23-6	
SOT143-4	
TDFN-8	
TDFN-12	
TDFN-16	
uDFN-8	
uDFN-12	