



## Silicon Protection Array (SPA) TVS-ESD SP050X Series



The surface mount family of arrays are designed to suppress ESD and other transient overvoltage events. Fabricated in a proprietary silicon avalanche technology.

**Features:** • Input Protection for applications up to 5VDC • Fast Response Time: <1ns • Low Input Capacitance: 30pF Typical • Operating Temperature Range -40°C – 85°C • ESD Capability Standards: IEC 61000-4-2, Direct Discharge: 20kV (Level 4), IEC 61000-4-2, Air Discharge: 30kV (Level 4), MIL STD 883 3015.7 30kV

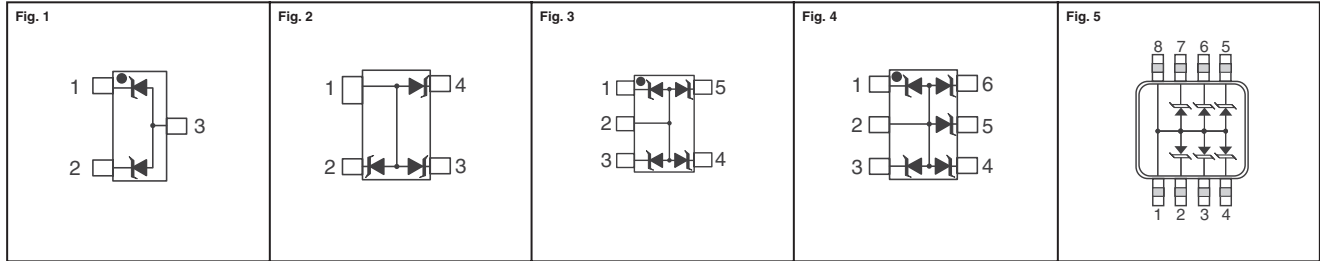


Fig.	No. of Input Channels	Package Type	Reverse Standoff Voltage Minimum	Reverse Leakage Current (nA) Maximum	Clamp Voltage Forward (V) Typical	Diode Capacitance 2.5V @ 1MHz (pF)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Littelfuse Part No.
								1	10	100		Qty.	Pricing	
1	2	SOT23	5.5	100	6.8	30	F2714CT-ND	.79	.73	.62	F2714TR-ND	3,000	288.51/M	SP0502BAHTG
	2	SC70-3	5.5	100	6.8	30	F3158CT-ND	.88	.81	.68	F3158TR-ND	3,000	319.48/M	SP0502BAJTG
2	3	SOT143	5.5	100	6.8	30	F2715CT-ND	.95	.88	.74	F2715TR-ND	3,000	347.19/M	SP0503BAHTG
	4	SOT23-5	5.5	100	6.8	30	F3157CT-ND	1.11	1.03	.86	F3157TR-ND	3,000	405.87/M	SP0504BAHTG
3	4	SC70-5	5.5	100	6.8	30	F3159CT-ND	1.24	1.14	.96	F3159TR-ND	3,000	449.88/M	SP0504BAJTG
	5	SOT23-6	5.5	100	6.8	30	F2716CT-ND	1.21	1.12	.94	F2716TR-ND	3,000	443.36/M	SP0505BAHTG
4	5	SC70-6	5.5	100	6.8	30	F3160CT-ND	1.38	1.27	1.07	F3160TR-ND	3,000	503.66/M	SP0505BAJTG
	6	MSOP-8	5.5	100	6.8	30	F3161CT-ND	1.90	1.75	1.47	F3161TR-ND	4,000	694.37/M	SP0506BAATG

## Silicon Protection Array (SPA)TVS-ESD — SP1000 Series



Zener diodes fabricated in a proprietary silicon avalanche technology protect each I/O pin to provide a high level of protection for electronic equipment that may experience destructive electrostatic discharges (ESD).

**Features:** • EFT protection, IEC61000-4-4, 40A (5/50 ns) • Peak Current (tp=8/20µs): SP1001 and SP1002 Series: 2A; SP1003 Series: 7A • Operating Temperature: -40°C – 85°C • Bi-directional devices

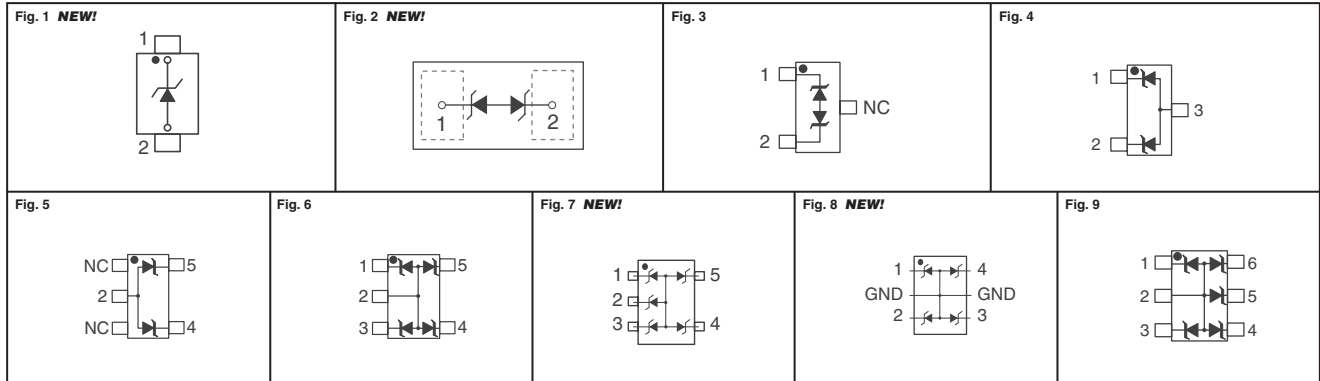


Fig.	No. of Input / Output Channels	Package Type	Reverse Standoff Voltage (Maximum)	Reverse Leakage Current (Maximum)	Clamp Voltage‡ IPP=2A, 8x20µS Forward (Typical)	Diode Capacitance Bias=0V (Typical)	ESD Withstanding Voltage‡ (IEC61000-4-2)		Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Littelfuse Part No.
							Contact	Air		1	10	100		Qty.	Pricing	
1	1†	SOD-723	5.0V	1.0µA	12.5V§	30pF	±25kV	±30kV	F3377CT-ND <b>NEW!</b>	.38	.35	.30	F3377TR-ND <b>NEW!</b>	8,000	131.47/M	SP1003-01DTG
2	1	0201	6.0V	0.5µA	10.0V	30pF	±30kV	±30kV	F3572CT-ND <b>NEW!</b>	.21	.20	.17	F3572TR-ND <b>NEW!</b>	10,000	71.39/M	SP1005-01WTG
	1	0201	6.0V	0.5µA	12.2V	5pF	±8kV	±15kV	F3573CT-ND <b>NEW!</b>	.21	.20	.17	F3573TR-ND <b>NEW!</b>	10,000	71.39/M	SP1007-01WTG
3	1	SC70-3	6.0V	0.5µA	11.2V	6pF	±8kV	±15kV	F2899CT-ND	.31	.29	.25	F2899TR-ND	3,000	114.10/M	SP1002-01JTG
4	2	SC70-3	5.5V	0.5µA	9.7V	12pF	±8kV	±15kV	F2893CT-ND	.38	.35	.30	F2893TR-ND	3,000	138.55/M	SP1001-02JTG
5	2	SOT-553	5.5V	0.5µA	9.7V	12pF	±8kV	±15kV	F2894CT-ND	.40	.37	.32	F2894TR-ND	5,000	139.21/M	SP1001-02XTG
6	4	SC70-5	5.5V	0.5µA	9.7V	12pF	±8kV	±15kV	F2895CT-ND	.54	.50	.42	F2895TR-ND	3,000	195.60/M	SP1001-04JTG
	4	SOT-553	5.5V	0.5µA	9.7V	12pF	±8kV	±15kV	F2896CT-ND	.56	.52	.44	F2896TR-ND	5,000	193.34/M	SP1001-04XTG
7	4	SOT-953	6.0V	0.1µA	12.0V	6pF	±8kV	±15kV	F3502CT-ND <b>NEW!</b>	.57	.53	.44	F3502TR-ND <b>NEW!</b>	8,000	196.94/M	SP1004-04VTG
8	4	6-µDFN	6.0V	1.0µA	7.8Δ	6pF	±8kV	±15kV	F3503CT-ND <b>NEW!</b>	.55	.51	.43	F3503TR-ND <b>NEW!</b>	3,000	199.86/M	SP1010-04UTG
	4	6-µDFN	6.0V	1.0µA	10.2V	12pF	±15kV	±30kV	F3504CT-ND <b>NEW!</b>	.57	.53	.44	F3504TR-ND <b>NEW!</b>	3,000	207.55/M	SP1011-04UTG
9	5	SC70-6	5.5V	0.5µA	9.7V	12pF	±8kV	±15kV	F2897CT-ND	.67	.62	.52	F2897TR-ND	3,000	244.50/M	SP1001-05JTG
	5	SOT-563	5.5V	0.5µA	9.7V	12pF	±8kV	±15kV	F2898CT-ND	.69	.64	.54	F2898TR-ND	5,000	239.74/M	SP1001-05XTG

‡ Parameter is guaranteed by device characterization, see data sheet. † Uni-directional ESD Array § IPP=7A Δ IPP@1mA

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