

Low Capacitance TVS Zener Diode Arrays

Features:

- Low I/O Capacitance of 7pF typical
- 2, 3, 4 and 5 transient voltage suppressors (TVS) Zener diodes in a miniature package
- Compact SMT package saves board space and facilitates layout in space-critical applications
- In-system ESD protection to ±15kV contact discharge, per the IEC 61000-4-2 international
- Full ROHS compliant

Applications:

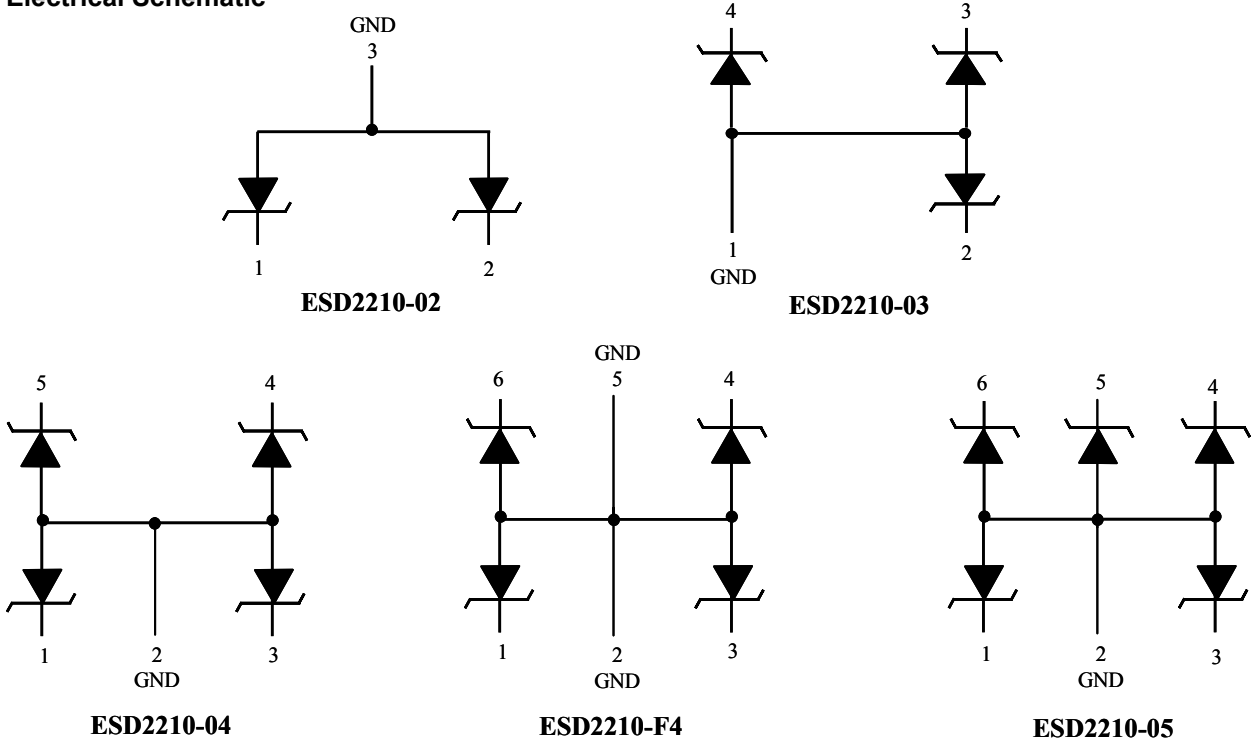
- ESD Protection of PC ports, including USB ports, serial ports, parallel ports, IEEE 1394 ports, docking ports, proprietary ports, etc.
- Protection of interface ports or IC pins which are exposed to high ESD levels

Product Description

The ESD2210 family of transient voltage suppressor arrays provide a very high level of protection for sensitive electronic components, which may be subjected to electrostatic discharge (ESD). The ESD2210 devices safely dissipate ESD strikes, exceeding the IEC 61000-4-2 International Standard, Level 4 (±8kV contact discharge). All pins are rated to withstand ±15kV ESD pulses using the IEC 61000-4-2 contact discharge method. Using the MIL-STD-883D (Method 3015) specification for Human Body Model (HBM) ESD, all pins are protected from contact discharges of greater than ±30kV.

The ESD2210 is available with lead-free finishing, supporting the current global industry movement to lead-free manufacturing.

Electrical Schematic

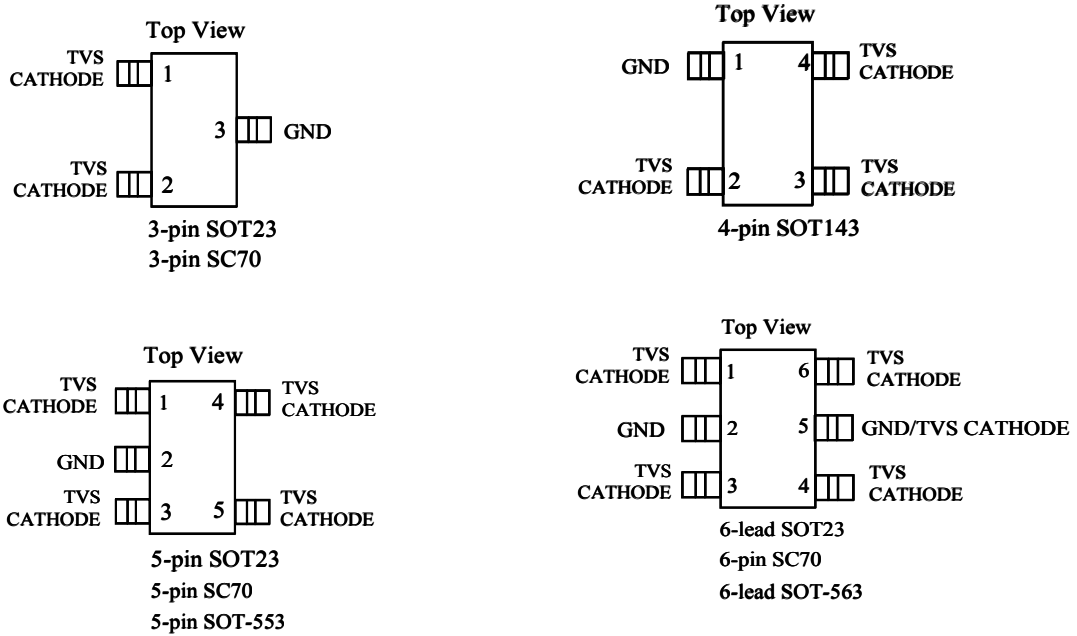


OBJECTIVE DATA SHEET

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ESD2210

PACKAGE/PINOUT DIAGRAMS



Note: SOT23, SC70, SOT143, SOT553, SOT563 and packages may differ in size. These drawings are not to scale.

PIN DESCRIPTIONS

PINS	NAME	DESCRIPTION
(Refer to package outline drawings)	TVS Cathode	The cathode of the respective TVS diode, which should be connected to the node requiring transient voltage protection.
(Refer to package outline drawings)	GND	The anode of the TVS diodes.

ABSOLUTE MAXIMUM RATINGS

PARAMETER	RATING	UNITS
Storage Temperature Range	-65 to +150	°C
Package Power Dissipation		
SC70	0.200	W
SOT23 & SOT143	0.225	W

STANDARD OPERATING CONDITIONS

PARAMETER	UNITS	UNITS
Operating Temperature	-40 to +85	°C

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
C	Capacitance	$T_A = 25^\circ\text{C}$, 2.5VDC, 1MHz		7		pF
V_{RSO}	Reverse Stand-off Voltage	$I_R = 10\mu\text{A}$, $T_A = 25^\circ\text{C}$, $T_A = 25^\circ\text{C}$	6.0			V
		$I_R = 1\text{mA}$, $T_A = 25^\circ\text{C}$	6.5			V
I_{LEAK}	Leakage Current	$V_{\text{IN}} = 5.0\text{VDC}$, $T_A = 25^\circ\text{C}$		1	100	nA
V_{SIG}	Small Signal Clamp Voltage					
	Positive Clamp	$I = 10\text{mA}$, $T_A = 25^\circ\text{C}$	6.5	7.5	8.5	V
	Negative Clamp	$I = -10\text{mA}$, $T_A = 25^\circ\text{C}$	-0.5	-0.7	-1.3	V
V_{ESD}	ESD Withstand Voltage					
	Human Body Model, MIL-STD-883, Method 3015	Notes 1 & 2	± 30			kV
	Contact Discharge per IEC 61000-4-2 standard	Notes 1 & 2	± 15			kV
R_D	Diode Dynamic Resistance					
	Forward Conduction			1.2		Ω
	Reverse Conduction			1.6		Ω

Note 1: Guaranteed by design and characterization.

Note 2: ESD voltage applied between channel pins & ground, one pin at a time; all other channel pins open; all GND pins grounded.

Ordering Information:

PART NUMBERING INFORMATION				
# of Channels	Pins	Package	Ordering Part Number	Part Marking
2	3	SC70-3	ESD2210-02SR	22S
2	3	SOT23-3	ESD2210-02TR	222T
3	4	SOT143	ESD2210-03TR	223T
4	5	SC70-5	ESD2210-04SR	24S
4	5	SOT23-5	ESD2210-04TR	224T
4	5	SOT553-5	ESD2210-045R	245
4	6	SOT563-6	ESD2210-F46R	F46
5	6	SC70-6	ESD2210-05SR	25S
5	6	SOT23-6	ESD2210-05TR	225T
5	6	SOT563-6	ESD2210-056R	256

Parts are shipped in Tape&Reel unless otherwise specified.