



# TVS Diode Arrays



Features: • Low Capacitance - 2.5pF • ESD Protection • Surge Protection Applications: • TVS Diode Array for High Speed Data ports • Personal Digital Assistants (PDAs)

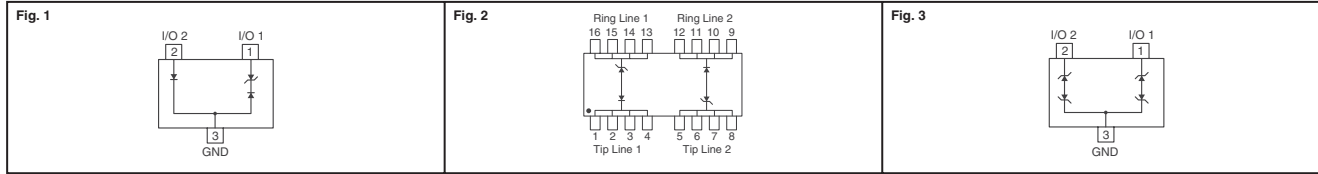


Fig.	Working Voltage	Breakdown Volt. @ 1mA	Leakage Current @ V <sub>WM</sub> (µA)	Cap. @ 0V, 1MHz (pF)	Clamping Voltage	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Bourns Part No.
							1	10	100		Qty.	Pricing	
1	2.8	3	1	2.5	3.9 @ 2A	CDSOT23-SLVU2.8CT-ND	1.17	1.08	.79	CDSOT23-SLVU2.8TR-ND	3,000	630.00/M	CDSOT23-SLVU2.8
2	6	8	25	50	15 @ 100A	CDWBS16-PLC01-6CT-ND	5.40	3.90	3.20	CDWBS16-PLC01-6TR-ND	1,000	2800.00	CDWBS16-PLC01-6
3	7/12	7.5/13.3	20/1	75	11 @ 1A	CDSOT23-SM712CT-ND	1.17	1.08	.79	CDSOT23-SM712TR-ND	3,000	630.00/M	CDSOT23-SM712

# Steering/TVS Diode Arrays



Steering/TVS Diode Arrays for External Parts of Portable devices/Telecom applications: • Provides ESD, EFT and surge protection for the external parts of portable electronic devices • Protects Vcc and two data lines.

Low Capacitance Steering Diode/TVS Diode Array Combo: Will meet IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC 6100-4-5 (Surge) requirements. FEATURES: • Protects 2 lines and 4 lines • ESD Protection • Low capacitance 8pF APPLICATIONS: Telecom Hand Held Electronics

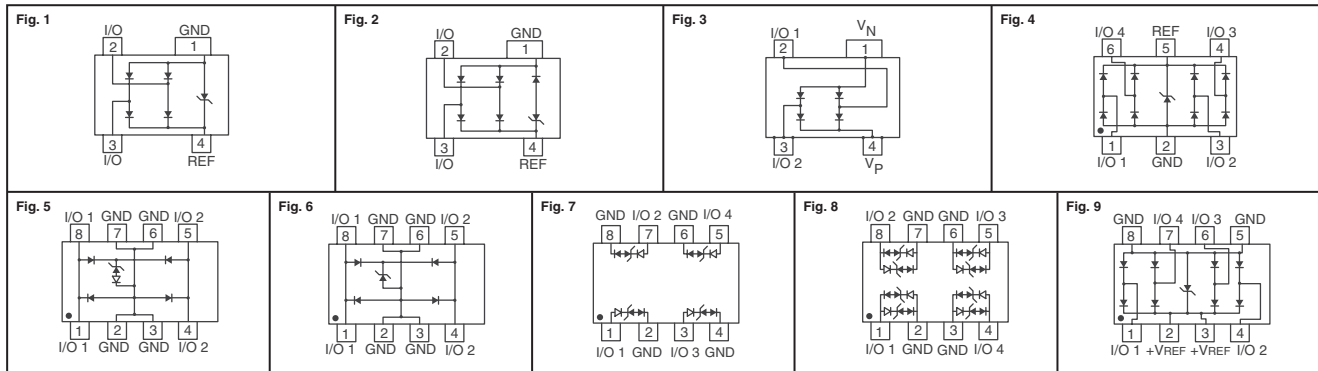


Fig.	Working Voltage	Breakdown Volt. @ 1mA	Leakage Current @ V <sub>WM</sub> (µA)	Capacitance @ 0V, 1MHz	Clamping Voltage	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Bourns Part No.
							1	10	100		Qty.	Pricing	
<b>Steering/TVS Diode Arrays for External Parts of Portable Devices/Telecom Applications</b>													
1	5	6	5	10	9.8 @ 1A	CD143A-SR05CT-ND	1.20	.75	.56	CD143A-SR05TR-ND	3,000	420.00/M	CD143A-SR05
1	12	13.3	1	10	19 @ 1A	CD143A-SR12CT-ND	1.20	.75	.56	CD143A-SR12TR-ND	3,000	420.00/M	CD143A-SR12
2	2.8	3	1	4.5	5 @ 1A	CD143A-SR2.8CT-ND	1.20	.75	.56	CD143A-SR2.8TR-ND	3,000	420.00/M	CD143A-SR2.8
2	3.3	3.5	1	4.5	7 @ 1A	CD143A-SR3.3CT-ND	1.20	.75	.56	CD143A-SR3.3TR-ND	3,000	420.00/M	CD143A-SR3.3
3	70	85	1	10	1.5 @ 1A	CD143A-SR70CT-ND	1.05	.75	.56	CD143A-SR70TR-ND	3,000	420.00/M	CD143A-SR70
4	5	6	5	3.5	12 @ 1A	CDSOT23-SRV05-4CT-ND	1.17	1.08	.79	CDSOT23-SRV05-4TR-ND	3,000	630.00/M	CDSOT23-SRV05-4
<b>Low Capacitance Steering Diode/TVS Diode Array Combo</b>													
5	3	3.3	2	20pF	18 @ 100A	CDNBS08-PLC03-3.3CT-ND	2.70	2.40	1.96	CDNBS08-PLC03-3.3TR-ND	2,500	1620.00/M	CDNBS08-PLC03-3.3
6	6	6.8	25	16pF	20 @ 100A	CDNBS08-PLC03-6CT-ND	2.40	2.16	1.96	CDNBS08-PLC03-6TR-ND	2,500	1680.00/M	CDNBS08-PLC03-6
7	2.8	3	1	6pF	8.5 @ 5A	CDNBS08-SLVU2.8-4CT-ND	2.04	1.35	1.04	CDNBS08-SLVU2.8-4TR-ND	2,500	840.00/M	CDNBS08-SLVU2.8-4
8	2.8	3	1	6pF	8.5 @ 5A	CDNBS08-SLVU2.8-8CT-ND	3.60	2.40	1.96	CDNBS08-SLVU2.8-8TR-ND	2,500	1680.00/M	CDNBS08-SLVU2.8-8
9	3.3	4	125	15pF	10.9 @ 43A	CDNBS08-SRDA3.3-4CT-ND	2.04	1.35	1.04	CDNBS08-SRDA3.3-4TR-ND	2,500	840.00/M	CDNBS08-SRDA3.3-4
10	5	6	20	15pF	13.5 @ 42A	CDNBS08-SRDA05-4CT-ND	2.04	1.35	1.04	CDNBS08-SRDA05-4TR-ND	2,500	840.00/M	CDNBS08-SRDA05-4

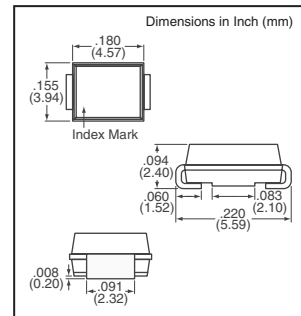
# TISP4CxxxH3BJ Series – Bidirectional Thyristor Overvoltage Protector



This device is designed to limit overvoltages on the telephone line. Overvoltages are normally caused by A.C. power systems or lightning flash disturbances which are induced or conducted on to the telephone line. A single device provides 2-point protection and is typically used for the protection of 2-wire telecommunication equipment (e.g. between the Ring and Tip wires for telephones and modems). Combinations of devices can be used for multi-point protection (e.g. 3-point protection between Ring, Tip and Ground). These devices are housed in a surface mount SMB (DO-214AA) package.

The protector consists of a symmetrical voltage-triggered bidirectional thyristor. Overvoltages are initially clipped by breakdown clamping until the voltage rises to the breaker level, which causes the device to crowbar into a low-voltage on state. This low-voltage on state causes the current resulting from the overvoltage to be safely diverted through the device. The high crowbar holding current prevents D.C. latchup as the diverted current subsides.

Protection Voltage V <sub>(BO)</sub> V	V <sub>DRM</sub> V	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	T & R Pricing	Bourns Part No.
			1	10	100		3,000	
115	90	TISP4C115H3BJR-SCT-ND	.98	.60	.44	TISP4C115H3BJR-STR-ND	334.00/M	TISP4C115H3BJR-S
125	100	TISP4C125H3BJR-SCT-ND	.98	.60	.44	TISP4C125H3BJR-STR-ND	334.00/M	TISP4C125H3BJR-S
145	120	TISP4C145H3BJR-SCT-ND	.98	.60	.44	TISP4C145H3BJR-STR-ND	334.00/M	TISP4C145H3BJR-S
180	145	TISP4C180H3BJR-SCT-ND	.98	.60	.44	TISP4C180H3BJR-STR-ND	334.00/M	TISP4C180H3BJR-S
220	180	TISP4C220H3BJR-SCT-ND	.98	.60	.44	TISP4C220H3BJR-STR-ND	334.00/M	TISP4C220H3BJR-S
250	190	TISP4C250H3BJR-SCT-ND	.98	.60	.44	TISP4C250H3BJR-STR-ND	334.00/M	TISP4C250H3BJR-S
290	220	TISP4C290H3BJR-SCT-ND	.98	.60	.44	TISP4C290H3BJR-STR-ND	334.00/M	TISP4C290H3BJR-S
350	275	TISP4C350H3BJR-SCT-ND	.98	.60	.44	TISP4C350H3BJR-STR-ND	334.00/M	TISP4C350H3BJR-S
395	320	TISP4C395H3BJR-SCT-ND	.98	.60	.44	TISP4C395H3BJR-STR-ND	334.00/M	TISP4C395H3BJR-S



Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

More Product Available Online: [www.digkey.com](http://www.digkey.com)

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## Integrated Complementary Buffered-Gate SCRS for Dual Polarity SLIC Overvoltage Protection



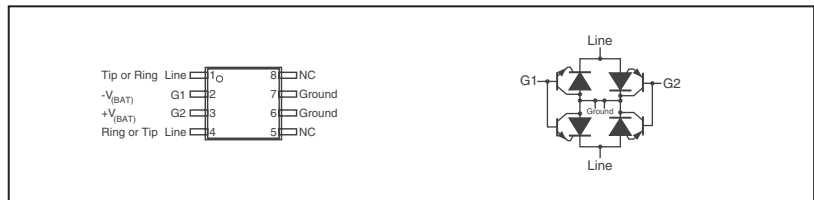
High Performance Protection for SLICs with +ve and -ve battery supplies

**Features:**

- Wide -110V to 110V Programming Range
- Low 5mA maximum Gate Triggering Current
- Dynamic Protection Performance Specified for International Surge Waveshapes
- 8-SOIC Package

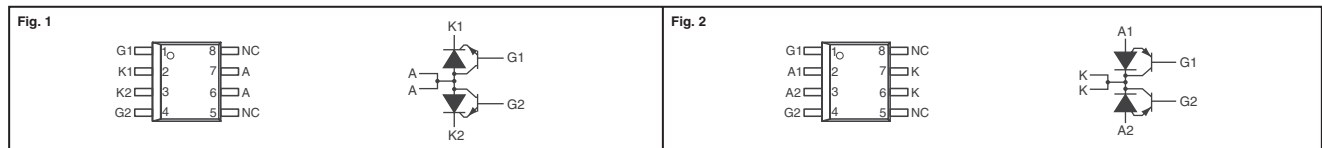
**Applications Include:**

- Wireless Local Loop
- Access Equipment
- Regenerated POTS
- VOIP Applications



Protection Voltage V <sub>(BO)</sub> (V)	V <sub>DRM</sub> V <sub>G1</sub> V <sub>G2</sub>	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	T&R Pricing 2,000	Bourns Part No.
			1	10	100			
-110 ~ 110	-120 120	TISP9110LDMR-SCT-ND	2.44	1.65	1.28	TISP9110LDMR-STR-ND	1050.00/M	TISP9110LDMR-S

## Complementary Buffered-Gate SCRS for Dual Polarity SLIC Overvoltage Protection

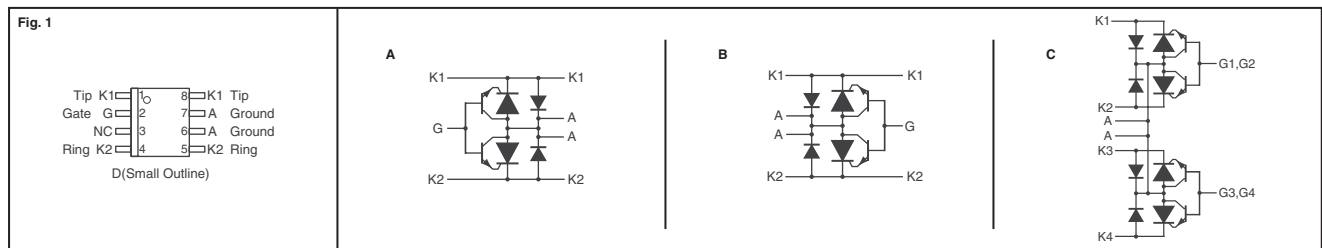


TISP8210MD BUFFERED P-GATE SCR DUAL: Negative Overvoltage Protector: • Wide 0 to -110V Programming Range • Low +5mA Maximum Gate Triggering Current • High -150mA Minimum Holding Current

TISP8211MD BUFFERED N-GATE SCR DUAL: Positive Overvoltage Protector: • Wide 0 to 110V Programming Range • Low -5mA Maximum Gate Triggering Current • +20mA Minimum Holding Current Package: 8-SOIC

Fig.	Protection Voltage V <sub>(BO)</sub> (V)	V <sub>DRM</sub>	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	T&R Pricing 2,500	Bourns Part No.
				1	10	100			
1	0 ~ -110	-120	TISP8210MDR-SCT-ND	1.75	1.11	.83	TISP8210MDR-STR-ND	656.00/M	TISP8210MDR-S
2	0 ~ 110	120	TISP8211MDR-SCT-ND	1.75	1.11	.83	TISP8211MDR-STR-ND	656.00/M	TISP8211MDR-S

## Forward-Conducting P-Gate Thyristors Programmable Overvoltage Protectors



**DUAL FORWARD-CONDUCTING P-GATE THYRISTORS, PROGRAMMABLE OVERVOLTAGE PROTECTORS:**

- TISP61089 Gated Protector Series: Dual Voltage-Tracking Protectors: • '61089 for Battery Voltages to: -75V • '61089A for Battery Voltages to: -100V • Low Gate Triggering Current: <5mA • High Holding Current: >150mA
- TISP61089B High Voltage Ringing SLIC Protector: Dual Voltage-Programmable Protectors: • Supports Battery Voltages Down to: -155V • Low Gate Triggering Current: <5mA Maximum • High Holding Current: >150mA Minimum
- TISP61089HDM Overvoltage Protector: Dual Voltage-Programmable SLIC Protector: • Supports Battery Voltages Down to -155V • Low Gate Triggering Current: <15mA Maximum • High Holding Current: >150mA Minimum

**QUAD FORWARD-CONDUCTING P-GATE THYRISTORS, PROGRAMMABLE OVERVOLTAGE PROTECTORS**

- TISP6NTP2A Programmable Protector: Independent Overvoltage Protection for Two SLICs in Short Loop Applications: • Wide 0 ~ -90V Programming Range • Low 5mA Maximum Gate Triggering Current • High 150mA Minimum (85°C) Holding Current • Specified 1.2/50 and 0.5/700 Limiting Voltage • Full -40°C ~ 80°C Temperature Range
- TISP6NTP2C High Voltage Ringing SLIC Protector: Independent Tracking Overvoltage Protection for Two SLICs: • Dual Voltage-Programmable Protectors • Supports Battery Voltages Down to -155V • Low 5mA Maximum Gate Triggering Current • High 150mA Minimum (70°C) Holding Current • Specified 2/10 Limiting Voltage • Small Outline Surface Mount Package • Full 0°C ~ 70°C Temperature Range

Fig.	Protection Voltage V <sub>(BO)</sub> (V)	V <sub>DRM</sub>	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Bourns Part No.
				1	10	100		Qty.	Pricing	
1A	0 ~ -85	-100	TISP61089DR-SCT-ND	1.55	.97	.74	TISP61089DR-STR-ND	2,500	588.00/M	TISP61089DR-S
	0 ~ -120	-120	TISP61089ADR-SCT-ND	1.55	.97	.74	TISP61089ADR-STR-ND	2,500	588.00/M	TISP61089ADR-S
	0 ~ -155	-170	TISP61089HDMR-SCT-ND	3.45	2.30	1.88	TISP61089HDMR-STR-ND	2,000	1581.00/M	TISP61089HDMR-S
1B	0 ~ -170	-170	TISP61089BDR-SCT-ND	1.55	.97	.74	TISP61089BDR-STR-ND	2,500	588.00/M	TISP61089BDR-S
1C	0 ~ -90	-100	TISP6NTP2ADR-SCT-ND	2.04	1.32	1.04	TISP6NTP2ADR-STR-ND	2,500	840.00/M	TISP6NTP2ADR-S
	0 ~ -170	-170	TISP6NTP2CDR-SCT-ND	2.04	1.32	1.02	TISP6NTP2CDR-STR-ND	2,500	840.00/M	TISP6NTP2CDR-S

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