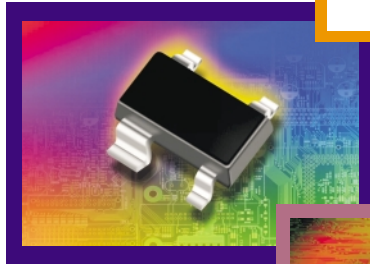




Solutions For
Wired Communications
Point of Sale Terminal



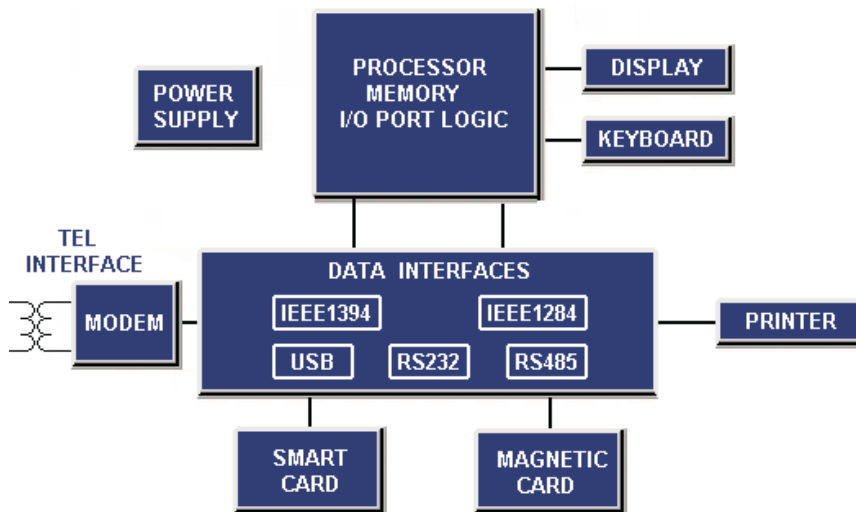
ESD PROTECTION & EMI FILTERING

Point of Sale Register

As with any type of electronic equipment, the Point of Sale register is susceptible to damage caused by the effects of Electrostatic Discharge. The human body is capable of discharging in excess of 40 kV of ESD. This causes damage and latent defects to internal system components.

The POS systems integrated circuits are also susceptible to the damaging effects of transient voltage spikes entering the system via the external telephone and power lines. These threats can cause severe damage to the equipment. In today's 24/7 business environment, downtime is unacceptable. It's a good thing our protection products never take a break!

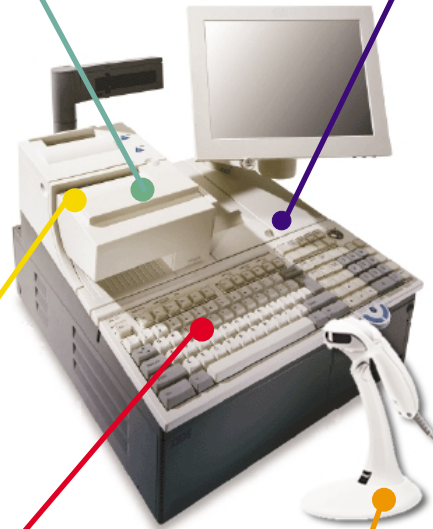
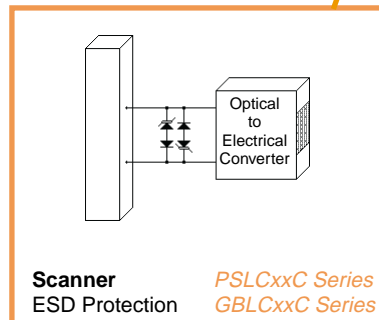
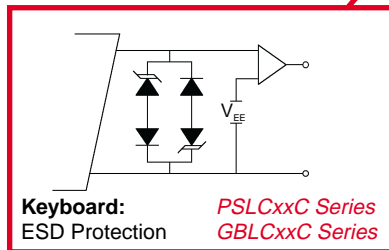
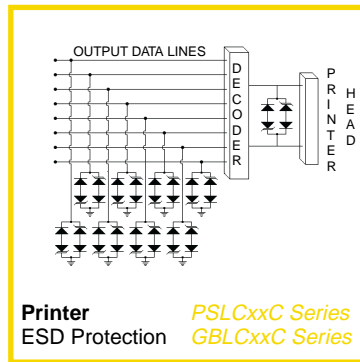
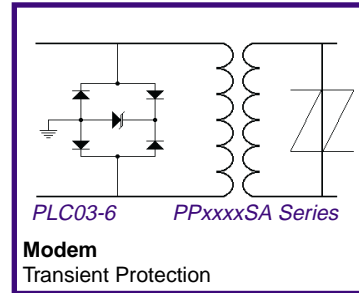
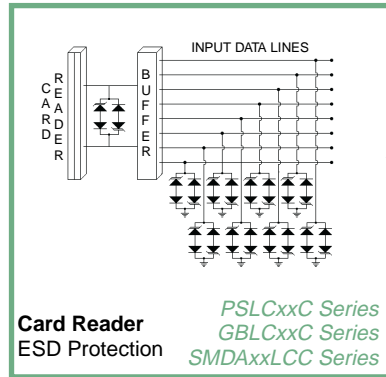
Point of Sale Register Block Diagram



Transient Voltage Suppression (TVS) devices provide protection at board-level ports from the effects of Electrostatic Discharge (ESD) as defined by IEC 61000-4-2. TVS also provides lightning and AC power fault protection meeting standard requirements such as IEC 61000-4-4, 4-5 and Bellcore GR1089.

APPLICATION NOTES

The following circuits represent several applications for ESD, EFT & EMI using transient voltage protection.

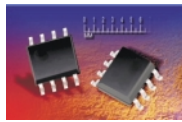


PREFERRED PROTECTION™



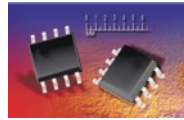
GBLC & GBLCxxC Series

- **ULTRA LOW Capacitance: 3pF**
- Available in (6) Voltage Types
- Low Clamping Voltage
- ESD > 40 kilovolts
- Unidirectional & Bidirectional Configurations
- 350 Watts Peak Pulse Power per Line (td=8/20μs)
- SOD-323 Package



PLC03-6

- Operating Voltage: 6V
- Capacitance: 18pF
- ESD > 40 kilovolts
- Low Leakage Current: 25μA
- Provides protection in either bidirectional differential mode or unidirectional common mode
- 2000 Watts Peak Pulse Power per Line (td=8/20μs)
- SOIC-8 Package



SMDAxxLC & SMDAxxLCC Series

- **LOW Capacitance: 15pF**
- Available in (6) Voltage Types
- ESD > 25 kilovolts
- Protects Up to 4 Bidirectional Lines
- 500 Watts Peak Pulse Power per Line (td=8/20μs)
- SOIC-8 Package



PSLC & PSLCxxC Series

- Low Capacitance: 10pF
- Low Clamping Voltage
- Available in (6) Voltage Types
- ESD > 40 kilovolts
- Unidirectional & Bidirectional Configurations
- 350 Watts Peak Pulse Power per Line (td=8/20μs)
- SOT-143 Package



PPxxxxSA Series

- Peak Off-State Voltage from 58 to 300 Volts
- Bidirectional for Common Mode Protection
- Low Capacitance for T1/E1 Trunk and Line Card Applications
- Provides protection in accordance with FCC Part 68, UL1459, Bellcore 1089, ITU-TK.20 and K.21 Compliant
- DO-214AA Packaging

DEVICE CHARACTERISTICS

PART NUMBER	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1 mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE @ $I_p = 5$ A V_c VOLTS	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μ A	MAXIMUM CAPACITANCE @ 0V, 1 MHz C pF
GBLC03*	3.3	4.0	12.0	75	3
GBLC05*	5.0	6.0	12.7	5	3
GBLC08*	8.0	8.5	13.0	2	3
GBLC12*	12.0	13.3	23.0	1	3
GBLC15*	15.0	16.7	29.0	1	3
GBLC24*	24.0	26.7	54.0	1	3
SMDA03LC*	3.3	4.0	9.0	125	15
SMDA05LC*	5.0	6.0	12.5	20	15
SMDA08LC*	8.0	8.5	16.6	10	15
SMDA12LC*	12.0	13.3	23.5	2	15
SMDA15LC*	15.0	16.7	29.5	2	15
SMDA24LC*	24.0	26.7	55.0	1	15
PSLC03*	3.3	4.0	9.0	125	10
PSLC05*	5.0	6.0	11.0	20	10
PSLC08*	8.0	8.5	16.6	10	10
PSLC12*	12.0	13.3	24.0	1	10
PSLC15*	15.0	16.6	30.0	1	10
PSLC24*	24.0	26.7	55.0	1	10
PLC03-6	6.0	6.8	15.0V @ 50A	25	25

*Bidirectional Configuration Offered. Add a "C" suffix when ordering, i.e., GBLC05C.

Surge Ratings	I_{pp} 2/10 μ s Amps	I_{pp} 10/160 μ s Amps	I_{pp} 10/560 μ s Amps	I_{pp} 10/1000 μ s Amps	SWITCHING VOLTAGE	HOLDING CURRENT	OFF-STATE CURRENT	TYPICAL CAPACITANCE
PPXXXXSA	N/A	100	50	N/A	77-400	150	5 μ A	30-60
PPXXXXSB	N/A	150	100	N/A	77-400	150	5 μ A	30-60
PPXXXXSC	500	200	160	100	77-400	150	5 μ A	60-120

ProTek Devices, based in Tempe, Arizona USA, is a manufacturer of Transient Voltage Suppression (TVS) products designed specifically for the protection of electronic systems from the destructive effects of Lightning, Electrostatic Discharge (ESD), Nuclear Electromagnetic Pulse (NEMP) and Inductive Switching. With over 25 years of engineering and manufacturing experience, ProTek designs TVS devices that provide application specific protection solutions for voice, video and data related systems, industrial controls, military and more.

Contact ProTek for more information about other application specific brochures:

- ✓ *Computer Equipment/Systems*
- ✓ *Network Systems*
- ✓ *Military Applications (Modules)*
- ✓ *PDA's*
- ✓ *Telecom*
- ✓ *Set-Top Boxes*
- ✓ *xDSL*
- ✓ *2002 Short Form Catalog*
- ✓ *2002 CD-ROM*
- ✓ *Wired Communications - Point of Sale Register*

Only One Name Means ProTek'tion™

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