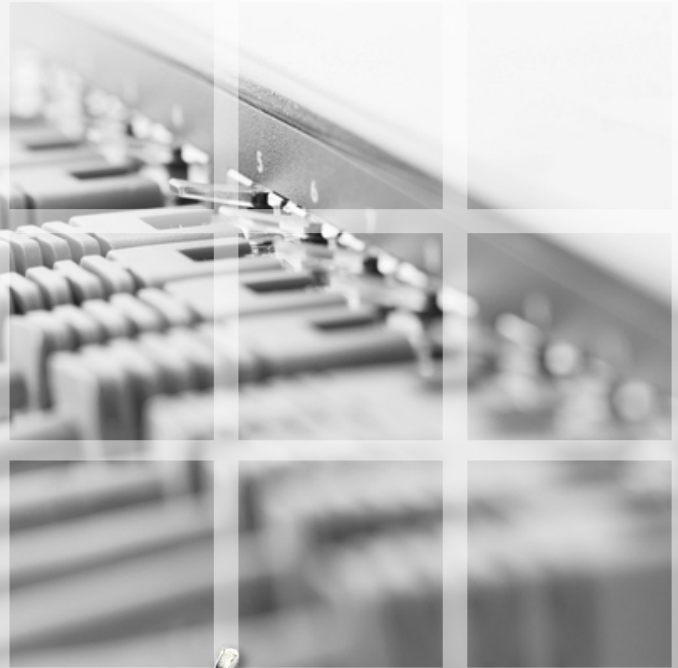


Hybrid Protection Module Safeguards Sensitive Ethernet Components



Known-good Solution for
Protecting Downstream
PHY Chips from
Damaging ESD and
Lightning-induced Surge
Currents

Offers both over current and
differential only overvoltage protection
for applications such as 10/100/1000
BaseT ports

Target Application:

- 10/100/1000 BaseT Ethernet
- ITU K.21 Basic level compliance
- ADSL/VDSL/G.fast modem
- Industrial Ethernet

The low loading capacitance and high surge capability makes the SP4031 ideal for protecting telecommunication ports such as Ethernet and other high speed data interfaces.

Hybrid Protection Module for 10/100/1000BaseT Ethernet

Features:

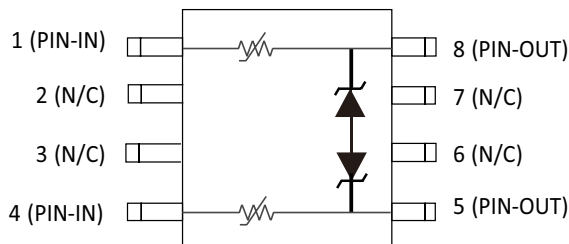
- Known-good design for overvoltage and over current events
- Through package routing, low breakdown voltage and low parasitic capacitance
- Resettable fuses, which senses over current and voltage events, and eliminates the path to the chip under protection

Benefits:

- Proven, turnkey solution against overvoltage and surge
- Tuned to interact well with ethernet speeds up through 1000 Mbits
- Creates a temporary high impedance which interrupts the signal lines during a high current event.

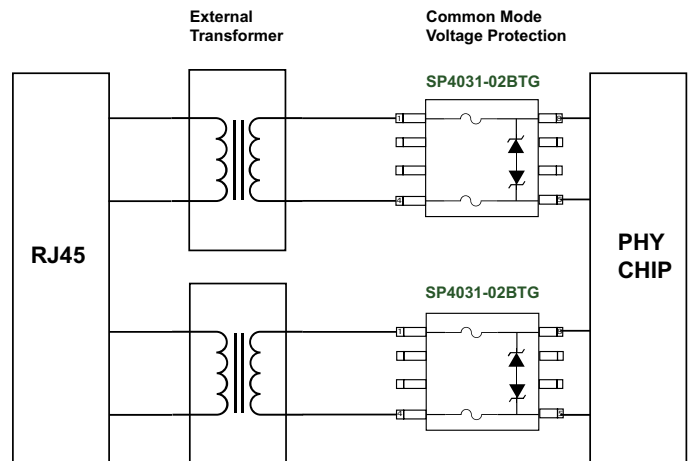
Functional Block Diagram

Flow through package layout allows PCB trace routing directly through the SP4031 without changing pitch dimensions, thus having less impact on normal signal high frequency components.



Application Diagram Example

During a prolonged overvoltage event such as a power fault, this component will present a high impedance. The high impedance state will reset once the power fault event has ended. During a fast transient event, the component will clamp, thus protecting any downstream chip sets.



Ordering Number	I _{pp} (A)	Breakdown Voltage (V)	Clamping Voltage (V)	Dynamic Resistance (Ω)	V _{ESD} Contact (kV)	Diode Capacitance (pF)	Package
SP4031-02BTG	35	4.5(Typ)	6.0(Typ)	0.45	±30	2.5(Max)	SOIC-8