



General Information

FEATURES

- 5300 V_{RMS} or 3750 V_{RMS} I/O Isolation
- Current-limit Protection Built-in
- Linear ac/dc Operation
- High-reliability Monolithic Receptor
- Extremely Low Leakage Current (pA)
- High Contact Off-impedance (GΩ)
- Low Power Consumption (1.0 mW—12 mW)
- Very Low Switch Offset (Typically 0.1 μV)
- Logic Compatible
- Clean, Bounce-free Switching
- High Surge Capability
- Insensitive to dv/dt
- Surface Mountable
- UL Recognized, File No. E52744
- CSA – Certification 093751
- BABT/BSI Certificate of Recognition to BS6301

BENEFITS

- Long Life
- Maintenance Free
- Current-limit SSRs Can Sustain Repeated Faults Without Damage
- Minimizes Drive Circuitry
- Noiseless
- Immune to Shock
- Immune to Environmental Hazards Such as Salt, Dirt, and Humidity
- No Arcing
- No Mounting Restrictions
- Preparative for DAA Applications
- High Reliability
- Easily Configured in Series or in Parallel for Increased Voltage or Current

DESCRIPTION

Vishay Solid State Relays (SSRs) are miniature, optically-coupled relays with high-voltage MOSFET outputs. The relays are capable of switching ac or dc loads from as little as nanovolts to hundreds of volts. Likewise, the relays can switch currents in the range of nanoamps to hundreds of milliamps. The MOSFET switches are ideal for small signal switching and are primarily suited for dc or audio frequency applications.

Vishay offers integrated current limiting on most of its relays. If load current through the relay exceeds the rated value, the relay clamps the current at a pre-defined value. If the excessive load current persists, the limiting circuit has a fold back feature to minimize relay power dissipation. The current-limit circuit has a multitude of uses. It can be used in telephony to clamp excessive currents emanating from lightning strikes and/or power-main crosses or in instrumentation and industrial application to squelch transients from reactive loads. The current-limit circuit also provides short-circuit protection in power-feed applications.

The SSRs feature a monolithic output die that minimizes wire bonds and permits easy integration of high-performance circuits such as current limiting in normally-open switches. The output die contains all the necessary circuitry to perform a relay function, including the photodiode receptor array, turn-on and turn-off control circuitry, and the MOSFET switches. The optically-coupled input is controlled by a highly efficient GaAlAs infrared LED.

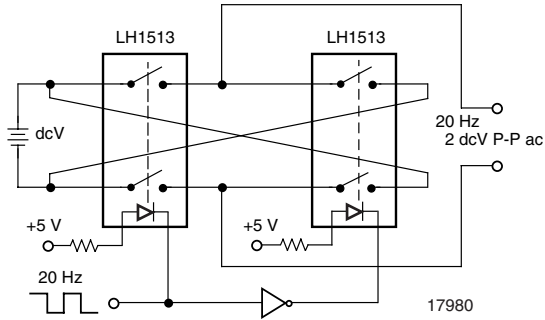
Vishay SSRs are available in a 4-, 6- or 8-pin through-hole DIP or in surface-mount packages. Some parts are also offered in 4- or 8-pin small-outline packages (SOPs). The SOPs are size and height compatible with PCMCIA Type 2 cards. Refer to the Parts Coding section for a more in-depth description of these parts.

Vishay Semiconductors

TYPICAL APPLICATIONS

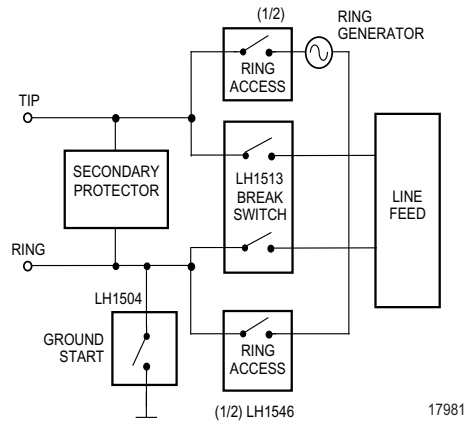
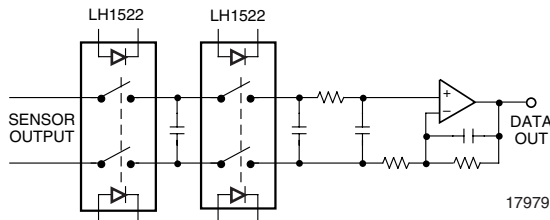
- ac Switch
- Telephone
- Heater Control
- Light Control
- Switching Systems
- Voltmeters
- Test Equipment
- Service Equipment
- E&M Signaling
- Multiplexers
- Scanners
- Motor Controls
- Output Modules
- Modems
- Programmable Controllers
- FAX
- Data Acquisition Systems
- Security Equipment
- Electric Meters
- Ring Relay
- Thermostats
- Answering Machines
- Battery Switch
- Board Testers
- Gas Pumps
- Appliances

Application	Ring Generators
Function	Square Wave Generator
Equipment	PBX
	Central Office Equipment
	Ring Generator

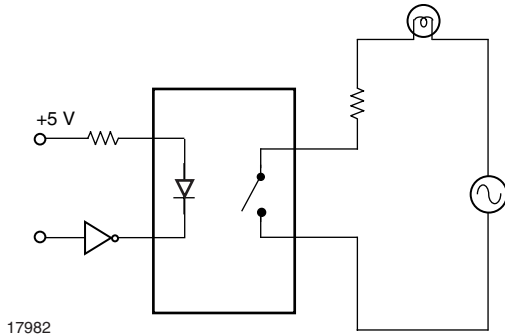


Application	Telephone Line Interface/SLIC
Function	Ring Relay
	Break Switch
	Ground Start
	Test Access
	E&M Signalling
Equipment	Subscriber Line Interface Circuits
	PBX
	Switching Systems
	Test/Service Equipment

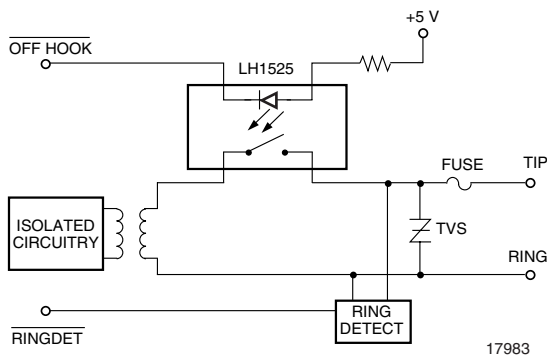
Application	Flying Capacitor
Function	Flying Capacitor Switch
Equipment	Data Acquisition Systems
	Multiplexers
	Scanners



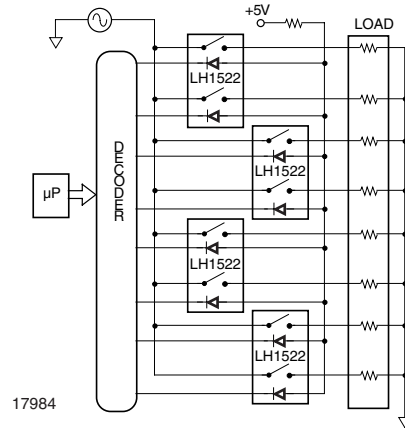
Application	Lamp, Light, Indicator Control
Function	ac Switch
Equipment	Programmable Controllers
	Thermostats
	Control Panels
	Industrial Controls



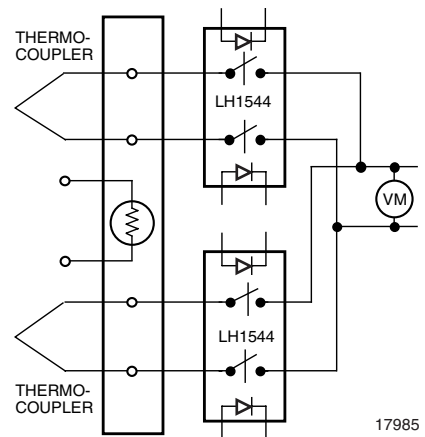
Application	Data Access Arrangement (DAA)
Function	Current-Limited Switchhook Control
Equipment	Modems
	Security Equipment
	Answering Machines
	Telephones
	FAX



Application	Multiplexer
Function	Analog Signal Multiplexer
	Analog Input Module
Equipment	Instrumentation
	Voltmeters
	Test Equipment
	Board Testers
	Scanners
	Data Acquisition Systems

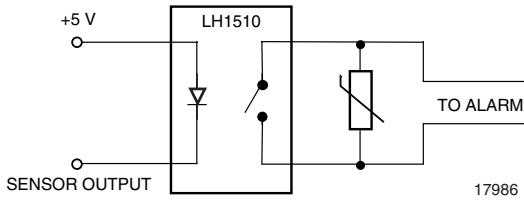


Application	Thermocouple Switching
Function	Thermocouple Matrix Control
Equipment	Scanners
	Data Acquisition Systems
	Programmable Controllers

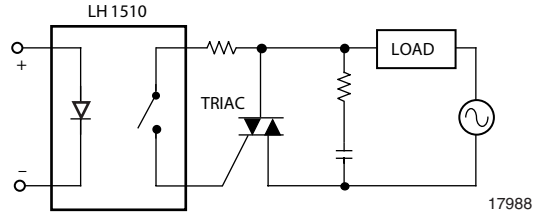


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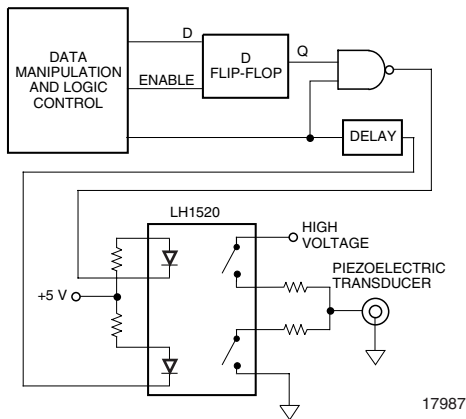
Application	Alarm Switch
Function	Glass Break Indicator
	Fire, Smoke Detector
Equipment	Security Systems
	Fire/Smoke Alarms



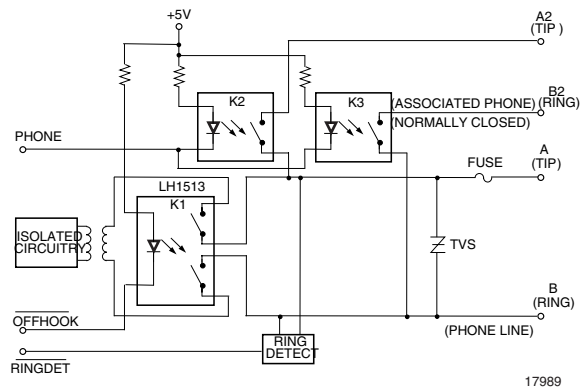
Application	Motor, Light, Heat, Solenoid Control
Function	Triac Pre driver
Equipment	Industrial Controls
	Programmable Controllers
	Factory Automation Equipment
	Appliances



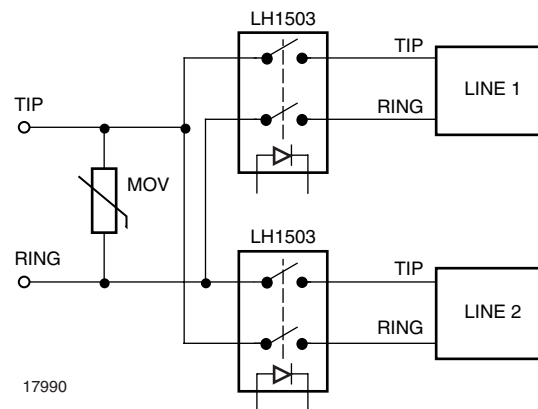
Application	Print Head Driver
Function	Current-Limited Drivers
	Piezoelectric Transducer
	High-Voltage Print Head
Equipment	Ink Jet Printers
	Display Drivers
	Thermal Printers



Application	Talk/Data Switch
Function	On/Off-hook Control
Equipment	Modems
	FAX



Application	Two-Line PSTN Interface
Function	On/Off-hook Control
Equipment	Telephone Equipment
	Test/Service Equipment



Wiring Diagrams

<p>ac/dc OUTPUT CONFIGURATIONS</p>	<p>SINGLE LOAD</p>	
	<p>TWO LOADS</p>	
<p>dc OUTPUT CONFIGURATIONS</p>	<p>SINGLE LOAD - REDUCED RON - INCREASED LOAD CURRENT - REDUNDANCY</p>	
	<p>SINGLE LOAD</p>	
	<p>TWO LOADS</p>	