

Photo DMOS-FET Relay

Description

The **LT525** is a 2-Form A solid state relay in a 8 pin DIP package that employs optically coupled MOSFET technology to provide 3750V/5000V of input to output isolation. The optically coupled input is controlled by a highly efficient GaAlAs infrared LED and MOS FETs on the output side.

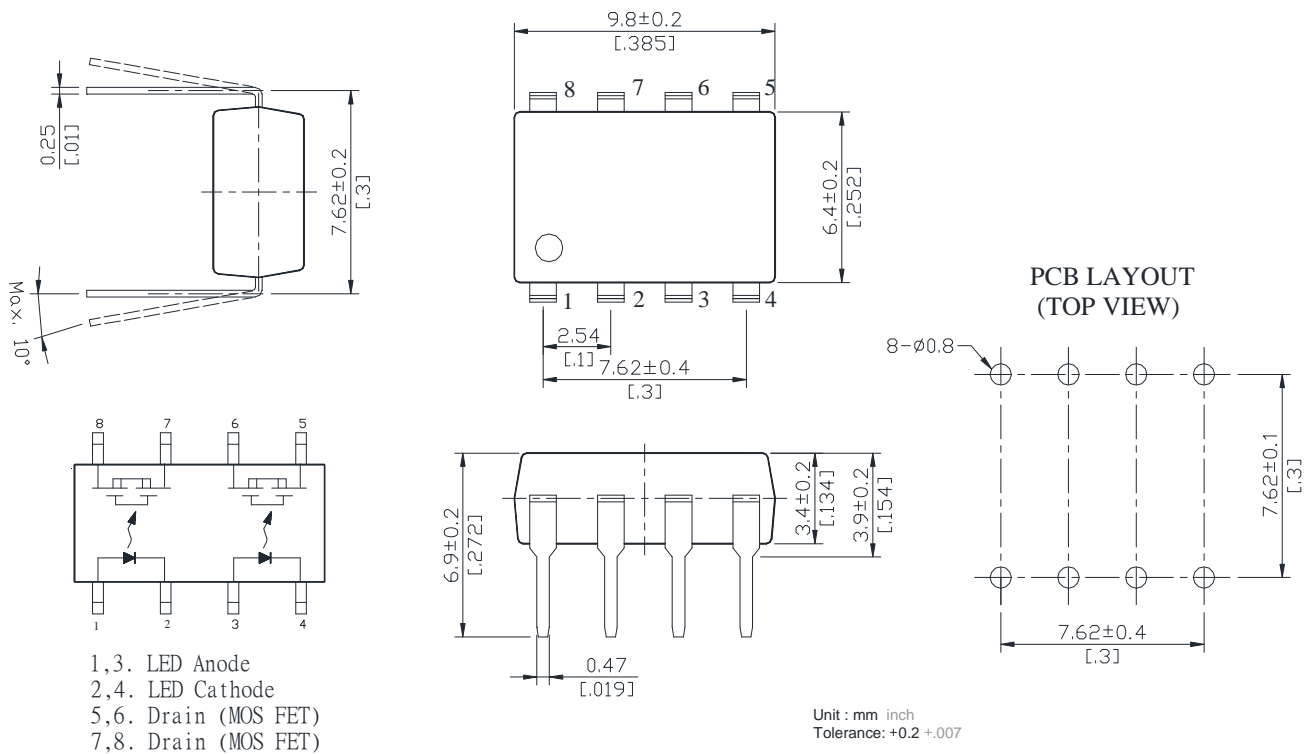
Features

- Low driver power requirements (TTL/CMOS Compatible)
- High reliability
- Arc-Free with no snubbing circuits
- 3750/5000 Vrms Input/Output isolation
- Tape & Reel version available

Applications

- Telecommunications (PC, Electronic notepad)
- Measuring and Testing equipment
- Industrial control
- Security equipments
- High speed inspection machine

Outline Dimensions



1,3. LED Anode
2,4. LED Cathode
5,6. Drain (MOS FET)
7,8. Drain (MOS FET)

Photo DMOS-FET Relay Specifications

Part Name: LT525

(Load voltage: 100V / Load current: 1.25A)

Absolute Maximum Ratings (Ambient Temperature: 25°C)

| Item | | Symbol | Value | Units | Note |
|---------------------------------|--------------------------|-------------------|-------------|------------------|---------------------|
| Input | Continuous LED Current | I _F | 50 | mA | |
| | Peak LED Current | I _{FP} | 1000 | mA | f=100Hz, duty=1% |
| | LED Reverse Voltage | V _R | 5 | V | |
| | Input Power Dissipation | P _{In} | 75 | mW | |
| Output | Load Voltage | V _L | 100 | V(AC peak or DC) | |
| | Load Current | I _L | 1.25 | A | |
| | Peak Load Current | I _{Peak} | 6.0 | A | 100ms(1 pulse) |
| | Output Power Dissipation | P _{out} | 350 | mW | |
| Total Power Dissipation | | P _T | 400 | mW | |
| I/O Breakdown Voltage | | V _{I/O} | 3750 | V _{rms} | RH=60%, 1min |
| I/O Breakdown Voltage(Suffix-V) | | V _{I/O} | 5000 | V _{rms} | RH=60%, 1min |
| Operating Temperature | | T _{opr} | -40 to +85 | °C | |
| Storage Temperature | | T _{stg} | -40 to +100 | °C | |
| Pin Soldering Temperature | | T _{sol} | 260 | °C | 10 sec max. |

Electrical Specifications (Ambient Temperature: 25°C)

| Item | | Symbol | MIN. | TYP. | MAX. | Units | Conditions |
|--------------|---------------------------|--------------------|------------------|-------|------|-------|--|
| Input | LED Forward Voltage | V _F | | 1.2 | 1.5 | V | I _F =10mA |
| | Operation LED Current | I _{F on} | | 1.0 | 3.0 | mA | |
| | Recovery LED Current | I _{F off} | | 0.35 | 0.8 | mA | |
| | Recovery LED Voltage | V _{F off} | 0.7 | | | V | |
| Output | On-Resistance | R _{on} | | 0.15 | 0.25 | Ω | I _F =10mA, I _L =100mA, Time to flow is within 1 sec. |
| | Off-State Leakage Current | I _{Leak} | | | 1.0 | uA | V _L =Rating |
| | Output Capacitance | C _{out} | | 115 | | pF | V _L =0, f=1MHz |
| Transmission | Turn-On Time | T _{on} | | 1.5 | 3.5 | ms | I _F =10mA, I _L =100mA, |
| | Turn-Off Time | T _{off} | | 0.035 | 0.3 | ms | |
| Coupled | I/O Isolation Resistance | R _{I/O} | 10 ¹⁰ | | | Ω | DC500V |
| | I/O Capacitance | C _{I/O} | | 0.8 | 1.5 | pF | f=1MHz |

Reference Data

