

Photo DMOS-FET Relay

Description

The **LT824** is a 1-Form A solid state relay in a 6 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

- DIP package 6 Pin type in miniature design (8.8×6.4×3.4mm / .173×.169×.083inch)
- Low driver power requirements (TTL/CMOS Compatible)
- No moving parts
- High reliability
- Arc-Free with no snubbing circuits
- 3750/5000Vrms Input/Output isolation

Applications

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

Outline Dimensions

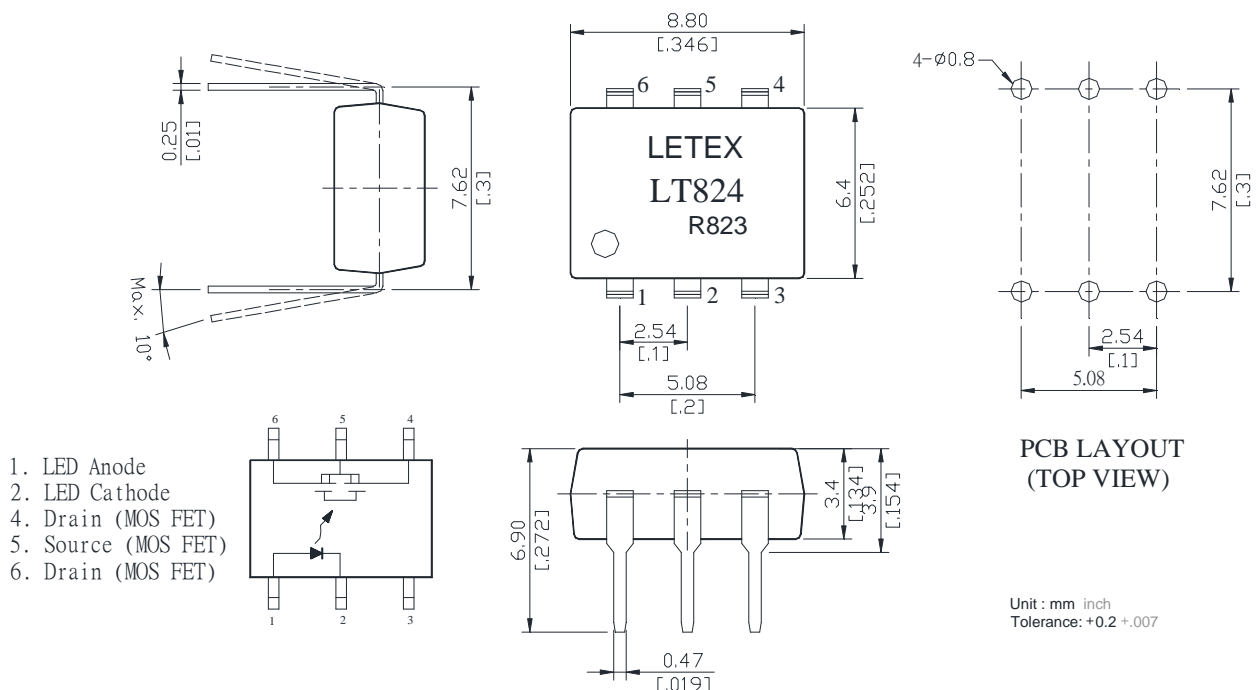


Photo DMOS-FET Relay Specifications

Part Name: LT824

(Load voltage:40V / Load current: 3.5A)

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	40	V(AC peak or DC)		
	Load Current	I _L	3.5	A	A	AC
			4.0	A	B	DC
			6.0	A	C	DC
	Peak Load Current	I _{Peak}	8.5	A	300 μs(1 pulse)	
Output Power Dissipation	P _{out}	500	mW			
Total Power Dissipation		P _T	550	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		1.3	1.5	V	I _F =10mA
	Operation LED Current	I _{Fon}		1.0	3.0	mA	
	Recovery LED Current	I _{Foff}		0.35	0.8	mA	
	Recovery LED Voltage	V _{Foff}	0.7			V	
Output	On-Resistance	R _{on}		0.043	0.07	Ω	I _F =10mA, I _L =Rating, Time to flow is within 1 sec.
	Off-State Leakage Current	I _{Leak}			1.0	uA	V _L =Rating
	Output Capacitance	C _{out}		690		pF	V _L =0, f=1MHz
Transmis sion	Turn-On Time	T _{on}		1.5	5	ms	I _F =10mA, I _L = Rating
	Turn-Off Time	T _{off}		0.05	2	ms	
Coupled	I/O Isolation Resistance	R _{I/O}	10 ¹⁰			Ω	DC500V
	I/O Capacitance	C _{I/O}		1.0	1.5	pF	f=1MHz

Reference Data

