

Model No. LY251

Photocoupler

Features

- SOP package 4 Pin type in miniature design (4.4×4.3×2.0mm / .173×.169×.083inch)
- High Repetitive Peak Off-State Voltage $V_{DRM}=600V$ min.
- 1500Vrms Input/Output isolation
- Tape & Reel version available

Applications

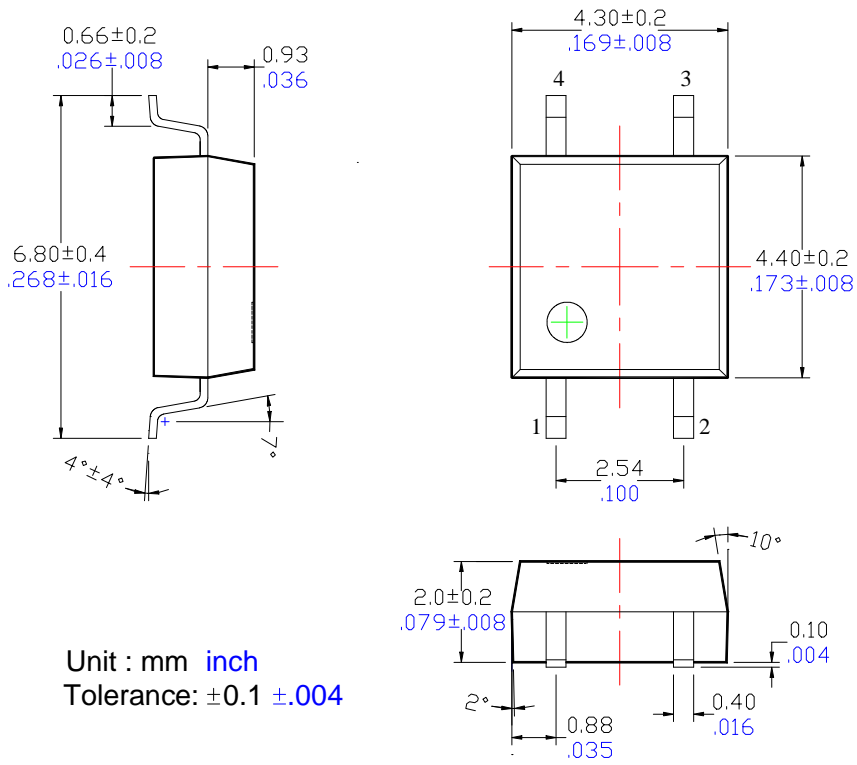
- AC Motor Drivers
- AC Motor Starters
- E.M. Contactors
- Lighting Controls
- Temperature Controls
- Solid State Relays
- Static Power Switches
- Solenoid/ Valve Controls

Photocoupler Specifications**Part Name: LY251****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	6	V	
	Input Power Dissipation	P _D	120	mW	
Output	Off-State Output Terminal Voltage	V _{DRM}	600	V	
	Peak Repetitive Surge Current	I _{TSM}	1	A	P _w =100us, 120pps
	Peak Load Current	I _{Peak}	0.6	A	100ms(1 pulse)
	Output Power Dissipation	P _{out}	150	mW	
Total Power Dissipation		P _T	250	mW	
I/O Breakdown Voltage		V _{iso}	1500	V _{rm}	RH=60%, 1min
Operating Temperature		T _{opr}	-40 to +100	°C	
Storage Temperature		T _{stg}	-50 to +120	°C	
Pin Soldering Temperature		T _{sol}	260	°C	10 sec max.

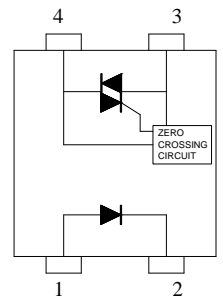
Electrical Specifications (Ambient Temperature: 25°C)

Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	LED Forward Voltage	V _F		1.2	1.4	V	I _F =10mA
	Reverse Current	I _R		0.05	10	μA	V _R =6V
Output	Peak Blocking Current, Either Direction	I _{DRM1}			500	nA	V _{DRM} =600V
	Peak On-State Voltage, Either Direction	V _{TM}			3.0	V	I _{TM} =100mA Peak
	Circuit rate of Rise of Off-State Voltage	dv/dt	600	1500		V/μs	
Coupled	LED Trigger Current, Current Required to Latch Output, Either Direction	I _{FT}		17	15	mA	Main Terminal Voltage= 3V
	Holding Current, Either Direction	I _H		400		μA	
	Turn-On Time	T _{on}		8	20	μs	V _p =9V, I _F =20mA, R _L =100Ω
Zero Crossing	Inhibit Voltage	V _{INH}		5	20	ms	I _F =Rated I _{FT} , MT1-MT2 Voltage above which device will not trigger.
	Leakage in Inhibited State	I _{DRM2}			500	μA	I _F =Rated I _{FT} , Rated V _{DRM} , Off State



Unit : mm inch
Tolerance: ± 0.1 $\pm .004$

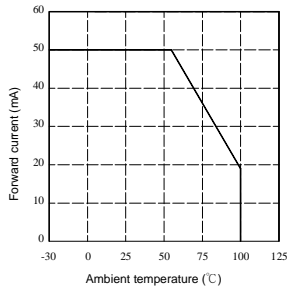
Schematic



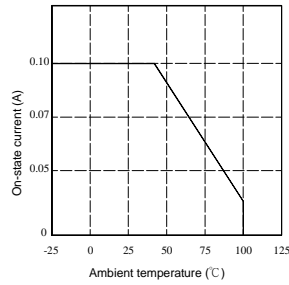
1. LED Anode
2. LED Cathode
3. Main Terminal
4. Main Terminal

Reference Data

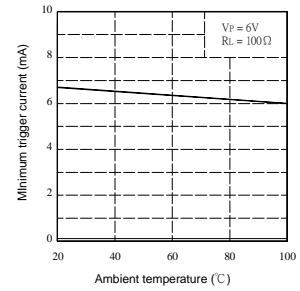
Forward current Vs. Ambient temperature



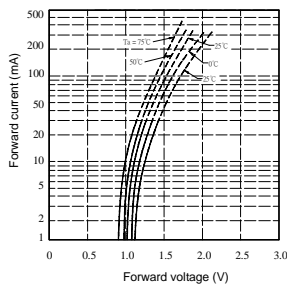
On-state current Vs. Ambient temperature



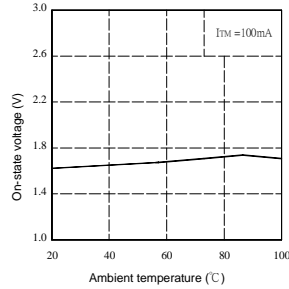
Minimum trigger current Vs. Ambient temperature



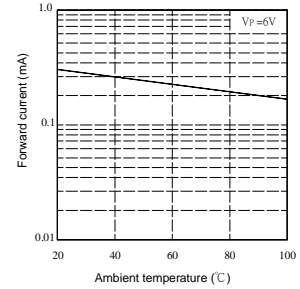
Forward current Vs. Forward voltage



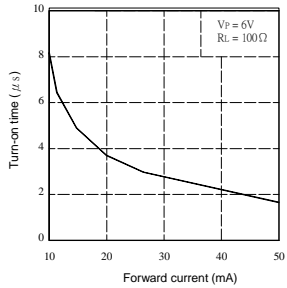
On-state voltage Vs. Ambient temperature



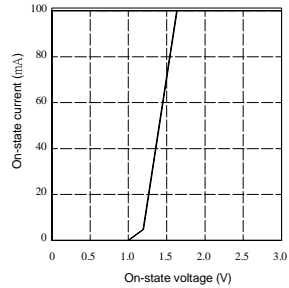
Holding current Vs. Ambient temperature



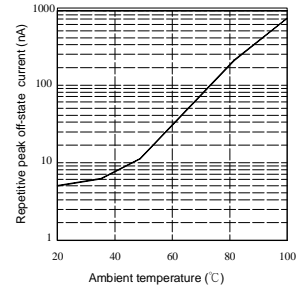
Turn-on time Vs. Forward current



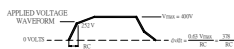
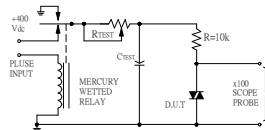
On-state current Vs. On-state voltage

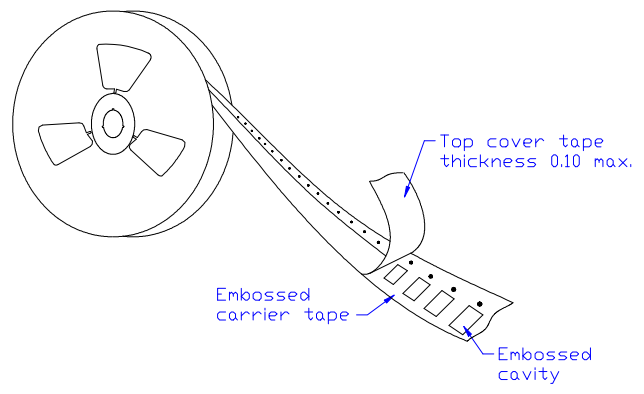
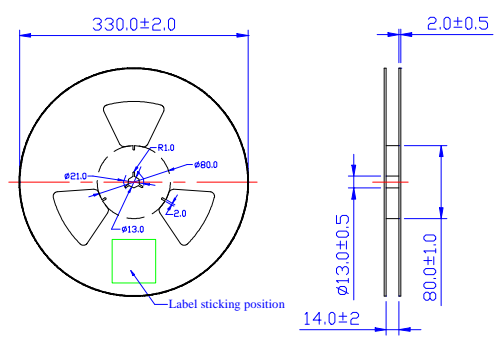


Repetitive peak off-state current Vs. Ambient temperature

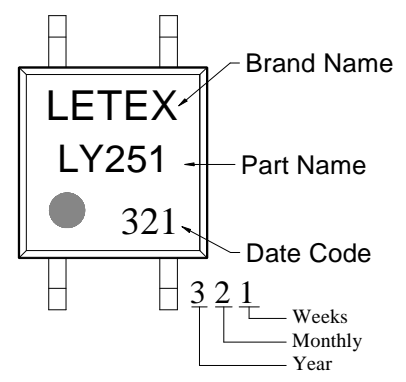
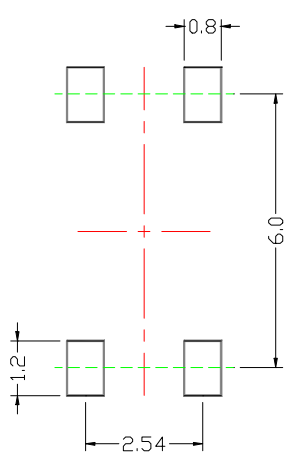
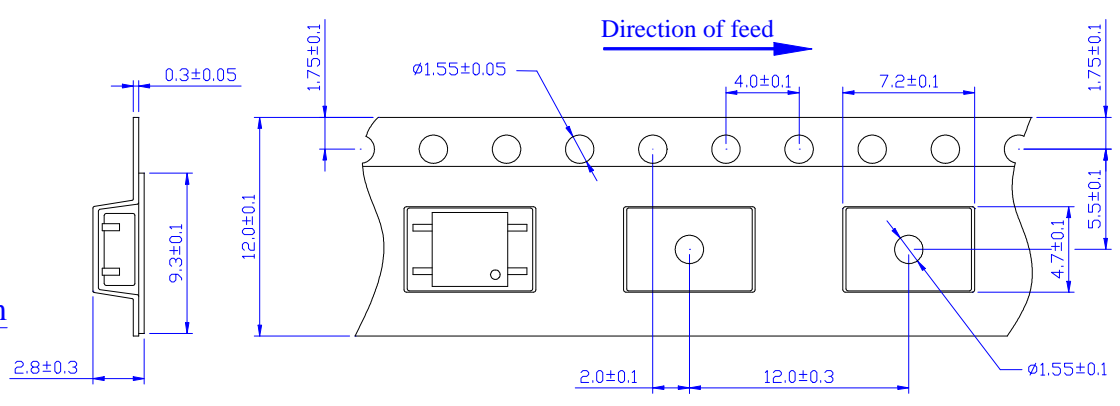


static dv/dt test circuit





Unit : mm



- Note: 1. There shall be leader of 230 mm minimum which may consist of carrier and or cover tape follower by a minimum of 160 mm of carrier tape sealed with cover tape.
2. There shall be a minimum of 160 mm of empty component pockets sealed with cover tape.
3. Devices are pockets in accordance with EIA standard EIA-481-A and specifications given above.
4. Packaging: 2,000pcs per reel, 2 reel per box, 5 boxes per carton.