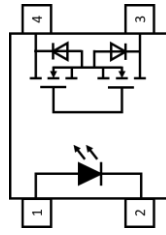
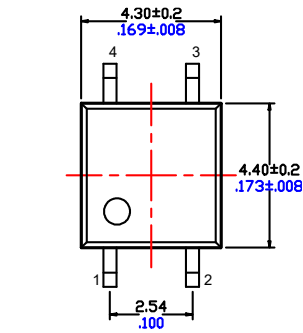
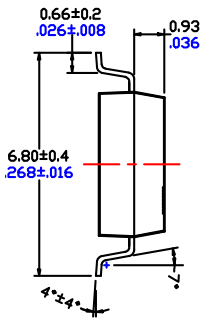


Miniature SOP-4pin type
of 80V load voltage

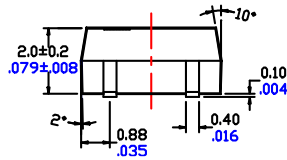
PHOTO DMOS RELAY AY8NS

1 From A



1. LED Anode
2. LED Cathode
3. MOSFET Drain
4. MOSFET Drain

Unit : mm inch
Tolerance: ±0.1 ±.004



FEATURE

1. Continuous load current: Max. 80mA.
2. Load on resistance: Typ. 35Ω.
3. Loading voltage 80V DC or AC peak.
4. Off-state leakage current: 10nA.

TYPICAL APPLICATIONS

- Measurement and test equipment
- Telecommunications
- Security equipment
- Industrial machinery and equipment

Absolute maximum ratings (Ambient temperature 25 °C)

| Item | | Symbol | Value | Units | Not |
|-------------------------|--------------------------|------------|-------------|-------|----------------|
| Input | Continuous LED current | I_F | 50 | mA | |
| | Peak LED current | I_{FP} | 1000 | mA | f=100Hz, DC 1% |
| | LED reverse voltage | V_R | 5 | V | |
| | Input power dissipation | P_{in} | 75 | mW | |
| Output | Load voltage | V_L | 80 | V | DC or AC peak |
| | Load current | I_L | 80 | mA | |
| | Peak load current | I_{peak} | 120 | mA | 100ms(1 pulse) |
| | Output power dissipation | P_{out} | 300 | mW | |
| Total power dissipation | | P_T | 350 | mW | |
| I/O isolation voltage | | V_{iso} | 1500 | Vrms | RH 60, 1min |
| Operating temperature | | T_{opr} | -40o +85 | °C | |
| Storage temperature | | T_{stg} | -40 to +100 | °C | |
| Soldering temperature | | T_{sol} | 260 | °C | 10sec max. |

Electrical specifications (Ambient temperature 25 °C)

| Item | | Symbol | Min. | Typ. | Max. | Units | Condition |
|--------------|---------------------------|------------|--------|------|------|-------|---------------------|
| Input | LED forward voltage | V_F | | 1.2 | 1.4 | V | $I_F=10mA$ |
| | Operating LED current | I_{Fon} | | 0.5 | 3.0 | mA | |
| | Recover LED current | I_{Foff} | 0.1 | 0.35 | | mA | |
| | Recover LED voltage | V_{Foff} | 0.5 | | | V | |
| Output | On resistance | R_{on} | | 35.0 | 50.0 | Ω | $I_F=5mA, I_L=80mA$ |
| | Off-state leakage current | I_{leak} | | | 10.0 | nA | $V_L=Rating$ |
| | Output capacitance | C_{out} | | 3 | | pF | $V_L=0V, f=1MHz$ |
| Transmission | Turn on time | T_{on} | | 0.03 | 0.2 | ms | $I_F=5mA, I_L=80mA$ |
| | Turn off time | T_{off} | | 0.05 | 0.2 | ms | |
| Coupled | I/O isolation resistance | $R_{I/O}$ | 10^9 | | | Ω | DC 500V |
| | I/O capacitance | $C_{I/O}$ | | 0.8 | 1.5 | pF | f=1MHz |



RAPIDTEK PHOTO DMOD RELAY

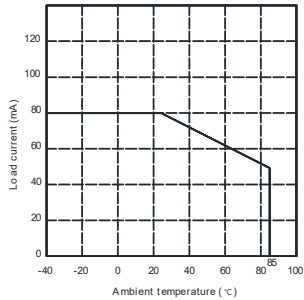
Rapidtek Magnetic Devices Inc.
<http://www.rapidtek.net>

PHOTO DMOS RELAY

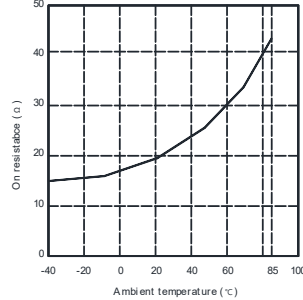
1 Form A Photo Relay

Reference data

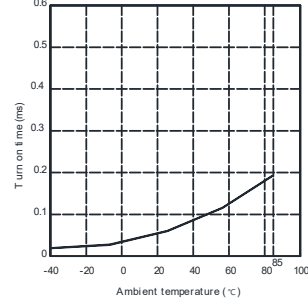
Load current vs. Ambient temperature



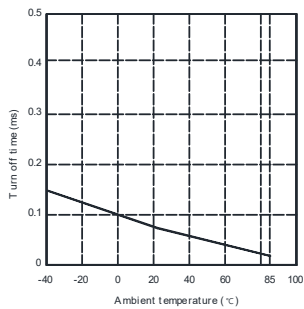
On resistance vs. Ambient temperature



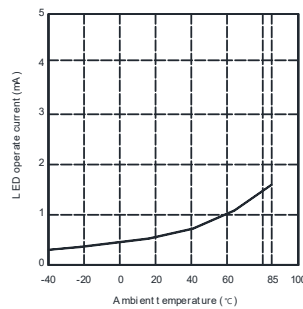
Turn on time vs. Ambient temperature



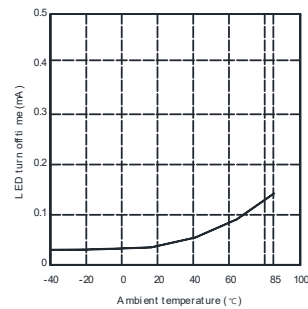
Turn off time vs. Ambient temperature



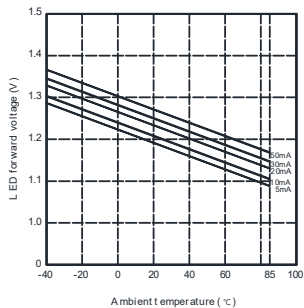
LED operate current vs. Ambient temperature



LED turn off current vs. Ambient temperature

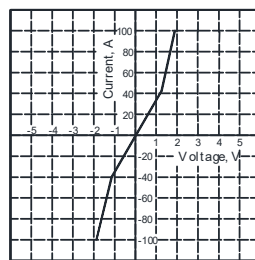


LED forward voltage vs. Ambient temperature



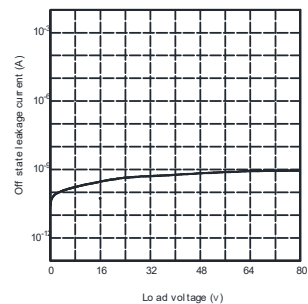
Voltage vs. current characteristics of output at

MOS portion



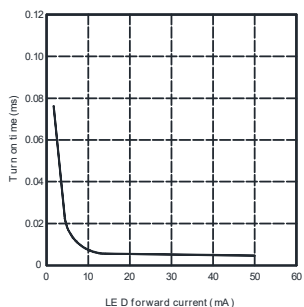
Off state leakage current vs. Load voltage

characteristics



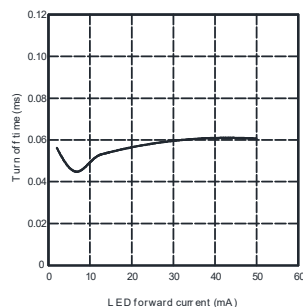
LED forward current vs. Turn on time

characteristics



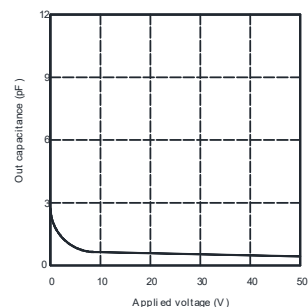
LED forward current vs. Turn off time

characteristics



Applied voltage vs. Output capacitance

characteristics



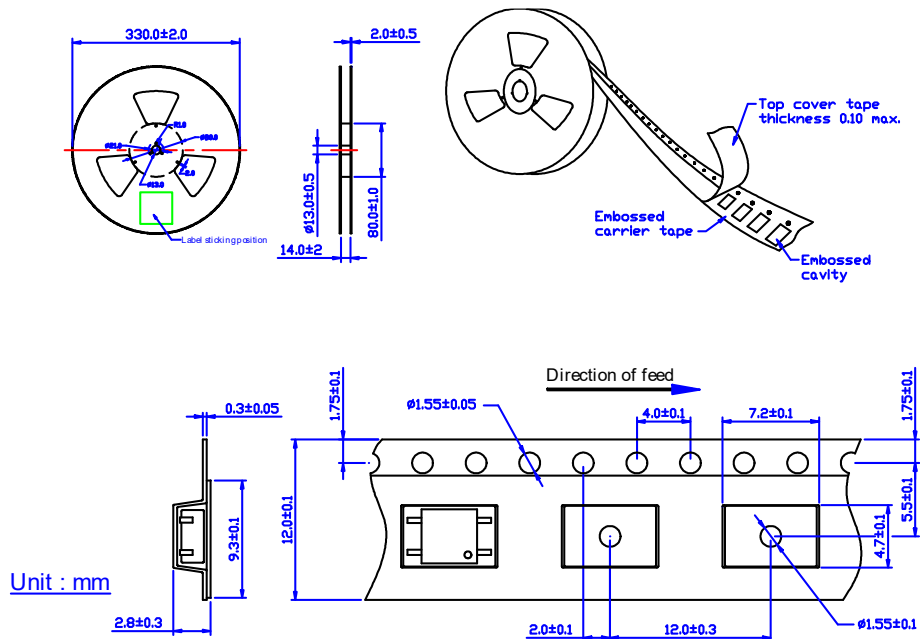
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<http://www.rapidtek.net>

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1 Form A Photo Relay

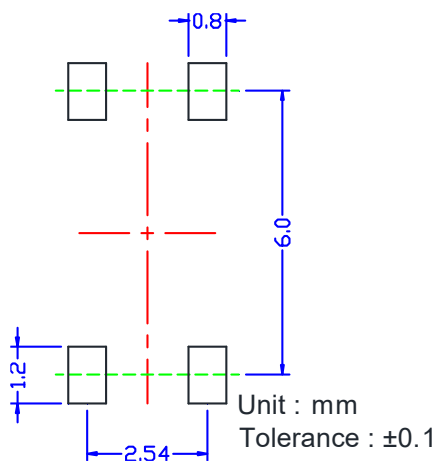
Taping specifications for surface mount devices



| Package | Part No. | | Packing quantity | |
|---------|--------------|---------------------|------------------|-------------|
| | Tube packing | Tape & Reel packing | Tube | Tape & Reel |
| SOP4 | AY8NS | AY8NS-R1 | 100pcs/1tube | 2000 pcs |

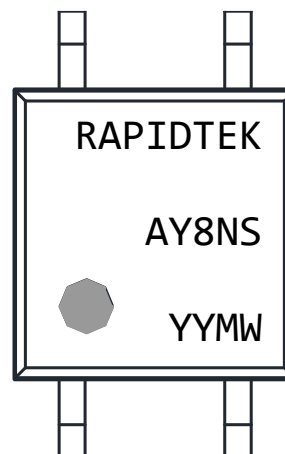
Dimension

Recommended mounting pad



Marking

(Each photo MOS Relay shall be marked with the following information)



YY : Year, M : Monthly, W : Weeks



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<http://www.rapidtek.net>