



# IS214

## Small Outline PhotoDMOS-FET Relay

### DESCRIPTION

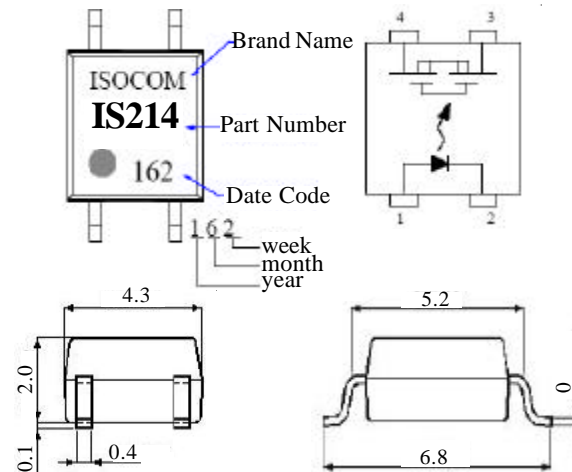
The IS214 is a miniature 1-Form A solid state relay in a 4 pin SOP package. The IS214 utilises MOSFET technology that is optically coupled to a highly efficient GaAlAs infrared light emitting diodes.

### FEATURES

- SOP 4 pin package for compact PCB's
- Lower driver power requirements
- No moving parts
- High reliability
- Arc-Free without snubbing circuits
- 1500Vrms Input/Output voltage
- All electrical parameters 100% tested
- Custom electrical selections available

### APPLICATIONS

- Telecommunications
- Industrial systems controllers
- Measuring instruments
- Security Equipment
- Signal transmission between systems of different potentials and impedances



### ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

|                            |       |                 |
|----------------------------|-------|-----------------|
| Storage Temperature        | _____ | -40°C to +100°C |
| Operating Temperature      | _____ | -40°C to +85°C  |
| Lead Soldering Temperature | _____ | 260°C           |

### INPUT DIODE

|                   |       |      |
|-------------------|-------|------|
| Forward Current   | _____ | 50mA |
| Reverse Voltage   | _____ | 5V   |
| Power Dissipation | _____ | 75mW |

### OUTPUT MOSFET

|                          |       |       |
|--------------------------|-------|-------|
| Load Voltage             | _____ | 80V   |
| Load Current             | _____ | 120mA |
| Output Power dissipation | _____ | 200mW |

### POWER DISSIPATION

|  |       |       |
|--|-------|-------|
| Total Power Dissipation                | _____ | 250mW |
| (derate linearly 4.17mW/°C above 25°C) |       |       |

#### ISOCOM COMPONENTS 2004 LTD

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#### ISOCOM COMPONENTS ASIA LTD

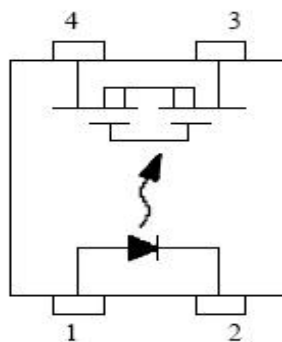
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**ELECTRICAL CHARACTERISTICS (  $T_A = 25^\circ\text{C}$  Unless otherwise noted )**

| PARAMETER |  | MIN  | TYP  | MAX | UNITS         | TEST CONDITION                         |
|-----------|--|------|------|-----|---------------|--|
| Input     | Forward Voltage ( $V_F$ )                |      | 1.2  | 1.4 | V             | $I_F = 10\text{mA}$                    |
|           | Reverse Current ( $I_R$ )                |      |      | 10  | $\mu\text{A}$ | $V_R = 5\text{V}$                      |
| Output    | On State Resistance ( $R_{on}$ )         |      | 8    | 12  | $\Omega$      | $I_F = 5\text{mA}, I_L = 100\text{mA}$ |
|           | Off State Leakage Current ( $I_{Leak}$ ) |      |      | 1   | $\mu\text{A}$ | $V_L = \text{Rating}$                  |
|           | Output Capacitance ( $C_{Out}$ )         |      | 17   |     | pF            | $V_L = 0, f = 1\text{MHz}$             |
| Coupled   | Input Control Current ( $I_{FON}$ )      |      | 0.5  | 3.0 | mA            |  |
|           | Recovery LED Current ( $I_{FOFF}$ )      |      | 0.35 | 0.5 | mA            |  |
|           | Recovery LED Voltage ( $V_{OFF}$ )       | 0.5  |      |     | V             |  |
|           | Turn On Time ( $T_{ON}$ )                |      | 0.15 | 0.5 | mS            | $I_F = 5\text{mA}, I_L = 100\text{mA}$ |
|           | Turn Off Time ( $T_{OFF}$ )              |      | 0.05 | 0.2 | mS            | $I_F = 5\text{mA}, I_L = 100\text{mA}$ |
|           | Input to Output Isolation ( $V_{ISO}$ )  | 1500 |      |     | V             | See note 1                             |

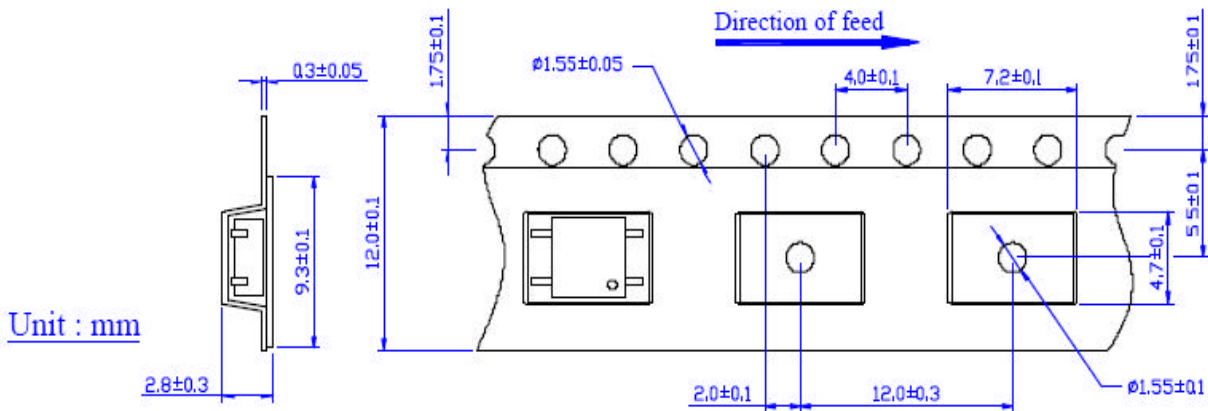
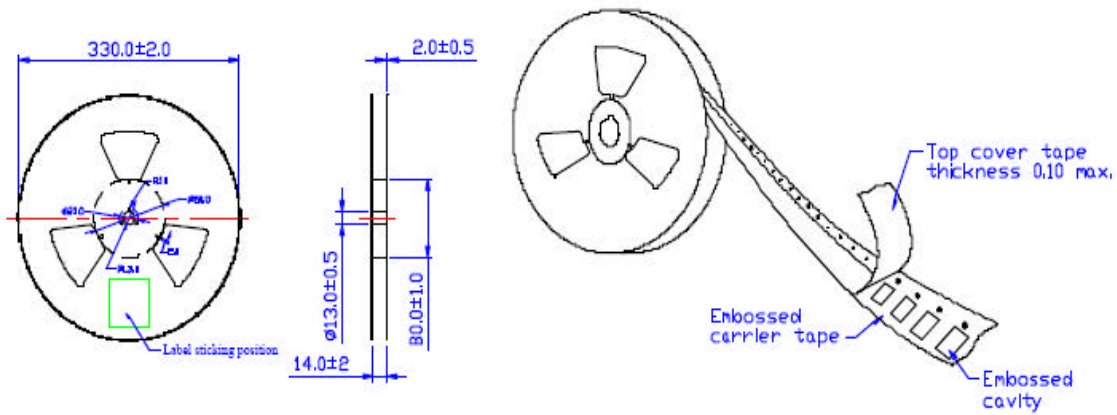
Note 1 Measured with input leads shorted together and output leads shorted together.

Note 2 Special Selections are available on request. Please consult the factory.



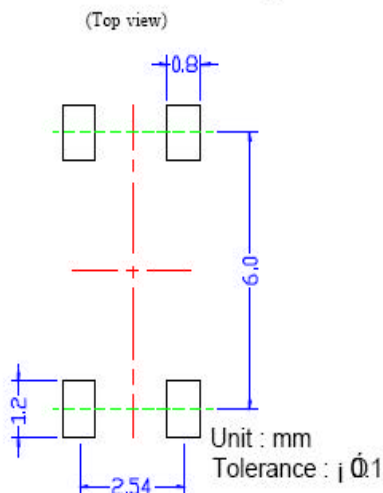
- 1 LED Anode
- 2 LED Cathode
- 3 Drain MOSFET
- 4 Drain MOSFET

## Taping Specifications for Surface Mount Devices



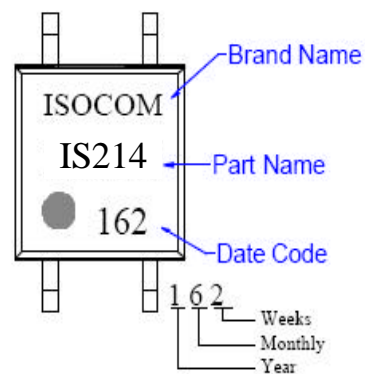
Unit : mm

### Recommended Mounting Pad



### Marking

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



- Note:
1. There shall be leader of 230 mm minimum which may consist of carrier and or cover tape followed 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.