

## 特性 Features

- 触点形式 Contact Form : 1 Form A (Zero-on 过零型/Random-on 随机型)
- 负载电压 Load Voltage : 110VAC/220VAC
- 负载电流 Load Current : 0.9A、1.2A、2A
- 漏电流 Low Off-State Leakage Current : 100μA

DIP7



SMD7



## 典型应用 Application

自动检测设备 Automatic Test Equipment

通信设备 Telephone Equipment

传感设备 Sensing Equipment

安全设备 Security Equipment

I/O 模块 I/O Modules

调制解调器 Modem

## ■ 绝对最大额定值 Absolute Maximum Ratings (Ta=25°C)

| 项目 Item                             |                                               | 符号 Symbol         | ST3M-2213/2223 | ST3M-3213/3223 | ST3M-5213/5223 | 备注 Remarks                           |
|-------------------------------------|-----------------------------------------------|-------------------|----------------|----------------|----------------|--------------------------------------|
| 输入 Input                            | 工作电流 LED Forward Current                      | I <sub>F</sub>    | 50mA           |                |                | f=100Hz, 占空比 Duty Ratio=0.1%         |
|                                     | 正向峰值电流 Peak Forward Current                   | I <sub>FP</sub>   | 1000mA         |                |                |                                      |
|                                     | 反向电压 LED Reverse Voltage                      | V <sub>R</sub>    | 5V             |                |                |                                      |
| 输出 Output                           | 负载电压 Load Voltage                             | V <sub>L</sub>    | 110VAC/220VAC  |                |                | 峰值 Peak AC, DC                       |
|                                     | 断态重复瞬间电压<br>Repetitive Peak OFF-state Voltage | V <sub>DRM</sub>  | 600V           |                |                |                                      |
|                                     | 连续负载电流 Continuous Load Current                | I <sub>L</sub>    | 0.9A           | 1.2A           | 2A             |                                      |
|                                     | 浪涌电流Non-repetitive surge Current              | I <sub>peak</sub> | 9A             | 12A            | 20A            | 100ms(1shot), V <sub>L</sub> =DC     |
| 输入输出间隔离电压 I/O Isolation Voltage     |                                               | V <sub>I/O</sub>  | 5000Vrms       |                |                |                                      |
| 工作温度 Ambient Temperature(Operating) |                                               | T <sub>opr</sub>  | -40℃ ~ +85℃    |                |                | 应无结冰、凝露 Avoid Icing and Condensation |
| 储存温度 Ambient Temperature(Storage )  |                                               | T <sub>stg</sub>  | -40℃ ~ +125℃   |                |                |                                      |

## ■ 电气性能概要 Electrical Specifications (Ta=25°C)

| 项目 Item                       |                                            |          | 符号 Symbol        | ST3M-2213/2223   |      | ST3M-3213/3223 | ST3M-5213/5223         | 测定条件 Conditions |
|-------------------------------|--------------------------------------------|----------|------------------|------------------|------|----------------|------------------------|-----------------|
| 输入 Input                      | 正向电压 LED Forward Voltage                   | 典型值 Typ. | V <sub>F</sub>   | 1.18V            |      |                | I <sub>F</sub> =10mA   |                 |
|                               |                                            | 最大值 Max. |                  | 1.4V             |      |                |                        |                 |
|                               | 最小触发电流Minimum Trigger Current              | 典型值 Typ. | I <sub>FT</sub>  | 2mA              |      |                |                        |                 |
|                               |                                            | 最大值 Max. |                  | 10mA             |      |                |                        |                 |
|                               | 反向电流ReverseCurrent                         | 最小值 Max. | I <sub>R</sub>   | 10μA             |      |                | V <sub>R</sub> =5V     |                 |
| 输出 Output                     | 导通电压降 On-State Voltage                     | 典型值 Typ. | V <sub>TM</sub>  | 1.3V             | 1.1V | 0.9V           | I <sub>T</sub> =Rating |                 |
|                               |                                            | 最大值 Max. |                  | 2.3V             |      |                |                        |                 |
|                               | 漏电流峰值 Peak Off-State Current               | 最大值 Max. | I <sub>DRM</sub> | 100μA            |      |                | V <sub>DRM</sub> =600V |                 |
|                               | 维持电流 Holding Current                       | 最大值 Max. | I <sub>H</sub>   | 25mA             |      |                | V <sub>O</sub> =6V     |                 |
|                               | 电压指数上升率Rise rate of OFF-state              | 典型值 Typ. | dv/dt            | 1000V/μS         |      |                | V <sub>DRM</sub> V 2   |                 |
| 最小值Min.                       |                                            | 200V/μS  |                  |                  |      |                |                        |                 |
| 传输特性 Transfer Characteristics | 导通时间 Turn-on Time(Random-on)               | 典型值 Typ. | T <sub>ON</sub>  | 8μS              |      |                | I <sub>F</sub> =20mA   |                 |
|                               |                                            | 最大值 Max. |                  | 100μS            |      |                |                        |                 |
|                               | 关断时间 Turn-off Time                         | 最大值 Max. | T <sub>OFF</sub> | 10ms             |      |                |                        |                 |
|                               | 导通时间 Turn-on Time(Zero-on)                 | 最大值 Max. | T <sub>ON</sub>  | 10ms             |      |                |                        |                 |
|                               | 输入输出间绝缘电阻 Initial I/O Isolation Resistance |          | 最小值 Min.         | R <sub>I/O</sub> | 50GΩ |                |                        | 500VDC          |

ST3M-□2□3 固态继电器 Solid State Relays

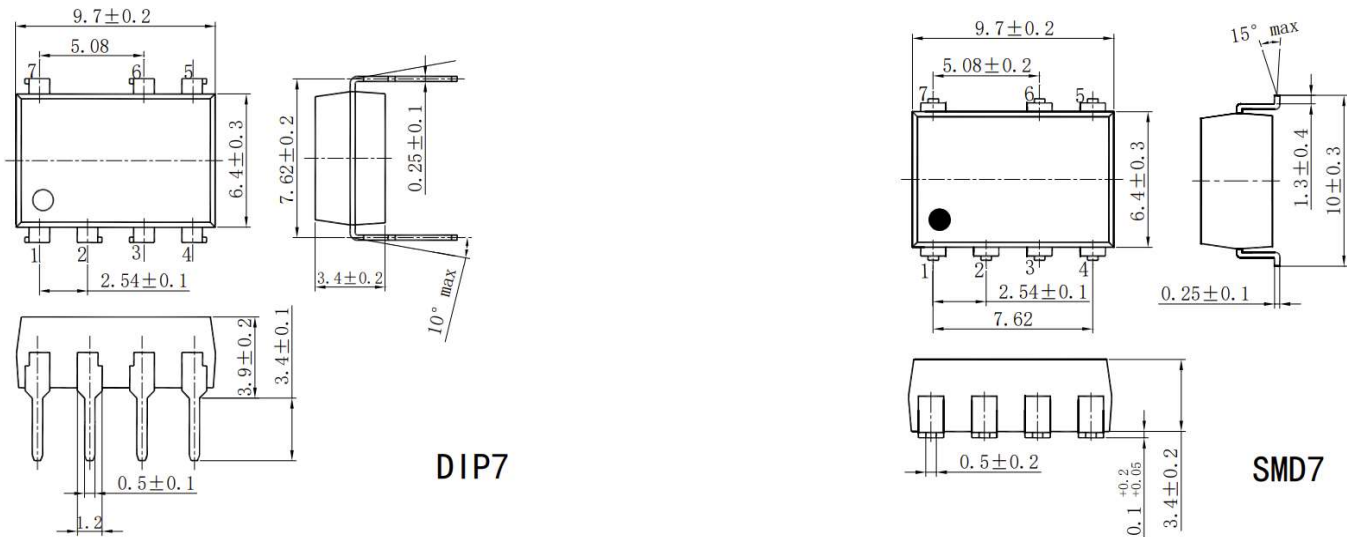
型号命名标准 Model Number Legend

|                                                                                                          |      |    |   |   |   |   |    |
|----------------------------------------------------------------------------------------------------------|------|----|---|---|---|---|----|
| 基本型号 Basic Type:                                                                                         | ST3M | -2 | 2 | 1 | 3 | A | TR |
| ST3M                                                                                                     |      |    |   |   |   |   |    |
| 负载电流类型 Load Current Type:                                                                                |      |    |   |   |   |   |    |
| 2: 0.9A负载电流 0.9A Load Current                                                                            |      |    |   |   |   |   |    |
| 3: 1.2A负载电流 1.2A Load Current                                                                            |      |    |   |   |   |   |    |
| 5: 2.0A负载电流 2.0A Load Current                                                                            |      |    |   |   |   |   |    |
| 断态重复瞬间电压 Repetitive Peak OFF-state Voltage:                                                              |      |    |   |   |   |   |    |
| 2: 600V                                                                                                  |      |    |   |   |   |   |    |
| 触点形式 Contact Form:                                                                                       |      |    |   |   |   |   |    |
| 1: 过零型 Zero-on; 2: 随机型 Random-on                                                                         |      |    |   |   |   |   |    |
| 引脚数量 Number of Pin:                                                                                      |      |    |   |   |   |   |    |
| 3: 7 脚 7 Pin                                                                                             |      |    |   |   |   |   |    |
| 封装 Package:                                                                                              |      |    |   |   |   |   |    |
| Blank: DIP (双列直插式封装 Dual In-line Package); A: SMD (表面安装端子--DIP间距 Surface Mount Terminal, as DIP Spacing) |      |    |   |   |   |   |    |
| 包装形态 Packing style:                                                                                      |      |    |   |   |   |   |    |
| Blank: 管装 Tube; TR: Tape and Reel                                                                        |      |    |   |   |   |   |    |

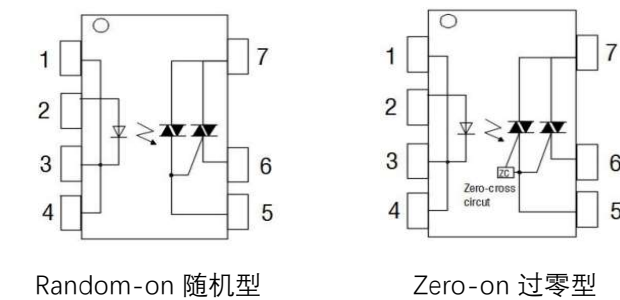
具体型号列表 List of Models

| 类别<br>Category       | 额定输出 Output Rating |                   | 触点形式<br>Contact Form          | 标刻型号<br>Marking Model | 订货型号<br>Part No.<br>DIP | 订货型号<br>Part No.<br>SMD |
|----------------------|--------------------|-------------------|-------------------------------|-----------------------|-------------------------|-------------------------|
|                      | 负载电压 Load Voltage  | 负载电流 Load Current | 过零型 Zero-on/<br>随机型 Random-on |                       |                         |                         |
| AC/DC 两用<br>Daul Use | 110V/220V          | 0.9A              | 过零型 Zero-on                   | ST3M-2213             | ST3M-2213               | ST3M-2213ATR            |
|                      |                    |                   | 随机型 Random-on                 | ST3M-2223             | ST3M-2223               | ST3M-2223ATR            |
|                      |                    | 1.2A              | 过零型 Zero-on                   | ST3M-3213             | ST3M-3213               | ST3M-3213ATR            |
|                      |                    |                   | 随机型 Random-on                 | ST3M-3223             | ST3M-3223               | ST3M-3223ATR            |
|                      |                    | 2A                | 过零型 Zero-on                   | ST3M-5213             | ST3M-5213               | ST3M-5213ATR            |
|                      |                    |                   | 随机型 Random-on                 | ST3M-5223             | ST3M-5223               | ST3M-5223ATR            |

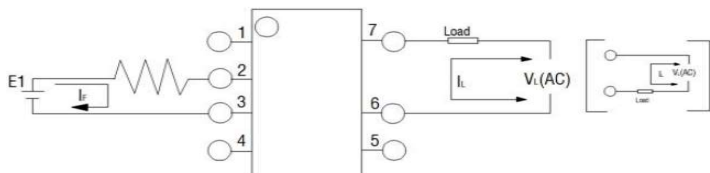
外形尺寸 Outline Dimensions



引脚标识 Terminal Identification



接线图 Wiring Diagram



参考数值 Reference Data

