

# GSM1362SF

## Preliminary Specification

### 100V N-Channel MOSFET

#### Absolute Maximum Ratings (T<sub>J</sub>=25°C Unless otherwise specified)

| Symbol           | Parameter                                              |                      | Value       | Unit |
|------------------|--------------------------------------------------------|----------------------|-------------|------|
| V <sub>DSS</sub> | Drain-Source Voltage                                   |                      | 100         | V    |
| V <sub>GSS</sub> | Gate-Source Voltage                                    |                      | ±20         | V    |
| I <sub>D</sub>   | Continuous Drain Current<br>(Silicon Limited)          | T <sub>A</sub> =25°C | 13          | A    |
|                  |                                                        | T <sub>A</sub> =70°C | 10          |      |
| I <sub>DM</sub>  | Pulsed Drain Current <sup>1</sup>                      |                      | 52          | A    |
| I <sub>AS</sub>  | Single Pulse Avalanche Current, L = 0.1mH <sup>2</sup> |                      | 25          | A    |
| E <sub>AS</sub>  | Single Pulse Avalanche Energy, L = 0.1mH <sup>2</sup>  |                      | 62.5        | mJ   |
| P <sub>D</sub>   | Power Dissipation                                      | T <sub>A</sub> =25°C | 2           | W    |
|                  |                                                        | T <sub>A</sub> =70°C | 1.2         |      |
| R <sub>θJA</sub> | Thermal Resistance-Junction to Ambient <sup>2</sup>    |                      | 62          | °C/W |
| T <sub>J</sub>   | Operating Junction Temperature Range                   |                      | -55 to +150 | °C   |
| T <sub>STG</sub> | Storage Temperature Range                              |                      | -55 to +150 | °C   |

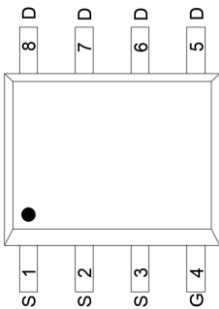
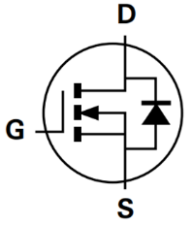
#### NOTE:

1. Single pulse width is limited by max junction temperature.
2. The data tested by surface mounted on a 1 inch<sup>2</sup> FR-4 board with 2OZ copper.

#### Electrical Characteristics (T<sub>J</sub>=25°C Unless otherwise specified)

| Symbol               | Parameter                      | Conditions                                               | Min | Typ | Max  | Unit |
|----------------------|--------------------------------|----------------------------------------------------------|-----|-----|------|------|
| Static               |                                |                                                          |     |     |      |      |
| V <sub>(BR)DSS</sub> | Drain-Source Breakdown Voltage | V <sub>GS</sub> =0V, I <sub>D</sub> =250uA               | 100 |     |      | V    |
| I <sub>DSS</sub>     | Drain-Source Leakage Current   | V <sub>DS</sub> =100V, V <sub>GS</sub> =0V               |     |     | 1    | uA   |
| I <sub>GSS</sub>     | Gate-Source Leakage Current    | V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V               |     |     | ±100 | nA   |
| V <sub>GS(th)</sub>  | Gate Threshold Voltage         | V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250uA | 1.2 |     | 2.5  | V    |
| R <sub>DS(on)</sub>  | Drain-Source On-Resistance     | V <sub>GS</sub> =10V, I <sub>D</sub> =10A                |     |     | 6.4  | mΩ   |
|                      |                                | V <sub>GS</sub> =4.5V, I <sub>D</sub> =10A               |     |     | 9    |      |
| V <sub>SD</sub>      | Diode Forward Voltage          | V <sub>GS</sub> =0V, I <sub>S</sub> =1A                  |     |     | 1    | V    |
| g <sub>fs</sub>      | Forward Transconductance       | V <sub>DS</sub> =5V, I <sub>D</sub> =10A                 | -   | 30  | -    | S    |

## Packages & Pin Assignments

| SOP-8L                                                                            |        |             | Equivalent Circuit                                                                  |        |             |
|-----------------------------------------------------------------------------------|--------|-------------|-------------------------------------------------------------------------------------|--------|-------------|
|  |        |             |  |        |             |
| Pin                                                                               | Symbol | Description | Pin                                                                                 | Symbol | Description |
| 1                                                                                 | S      | Source      | 8                                                                                   | D      | Drain       |
| 2                                                                                 | S      | Source      | 7                                                                                   | D      | Drain       |
| 3                                                                                 | S      | Source      | 6                                                                                   | D      | Drain       |
| 4                                                                                 | G      | Gate        | 5                                                                                   | D      | Drain       |

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