



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## 2SK3738 — N-Channel Junction Silicon FET

# Impedance Converter Applications

### Applications

- Impedance conversion
- Infrared sensor

### Features

- Small IGSS
- Small Ciss
- Ultrasmall package permitting applied sets to be small and slim

### Specifications

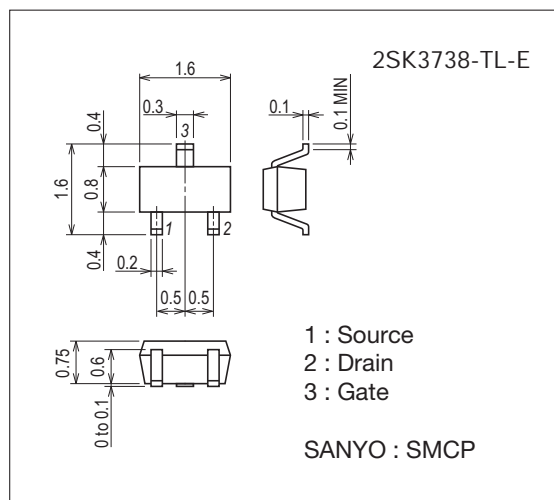
Absolute Maximum Ratings at Ta=25°C

| Parameter                   | Symbol           | Conditions | Ratings     | Unit |
|-----------------------------|------------------|------------|-------------|------|
| Drain-to-Source Voltage     | V <sub>DSS</sub> |            | 40          | V    |
| Gate-to-Drain Voltage       | V <sub>GDS</sub> |            | -40         | V    |
| Gate Current                | I <sub>G</sub>   |            | 10          | mA   |
| Drain Current               | I <sub>D</sub>   |            | 1           | mA   |
| Allowable Power Dissipation | P <sub>D</sub>   |            | 100         | mW   |
| Junction Temperature        | T <sub>J</sub>   |            | 150         | °C   |
| Storage Temperature         | T <sub>stg</sub> |            | -55 to +150 | °C   |

### Package Dimensions

unit : mm (typ)

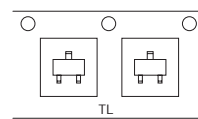
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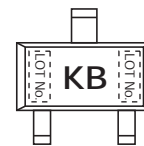
### Product & Package Information

- Package : SMCP
- JEITA, JEDEC : SC-75, SOT-416
- Minimum Packing Quantity : 3,000 pcs./reel

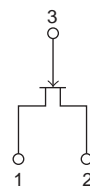
### Packing Type: TL



### Marking



### Electrical Connection



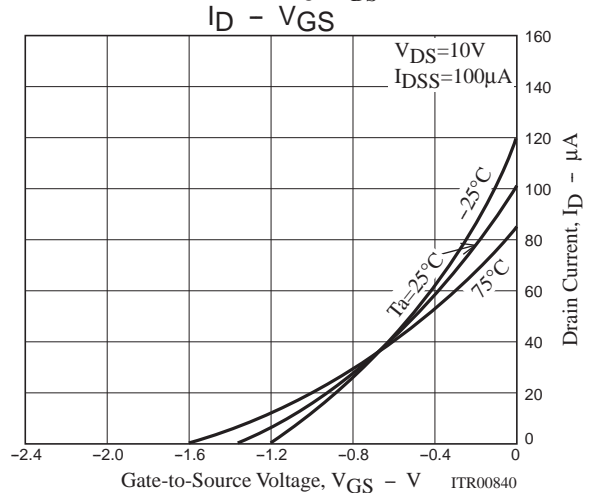
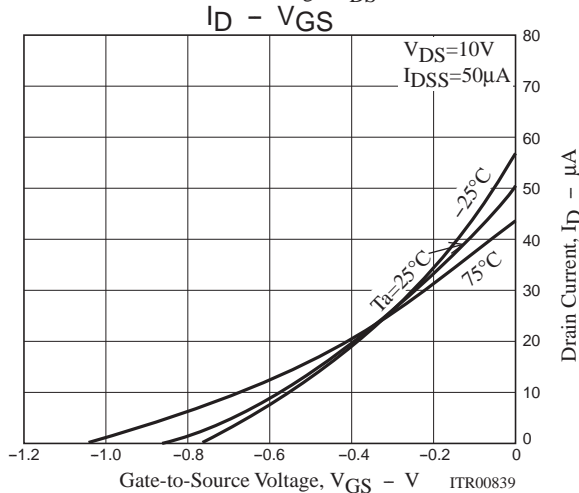
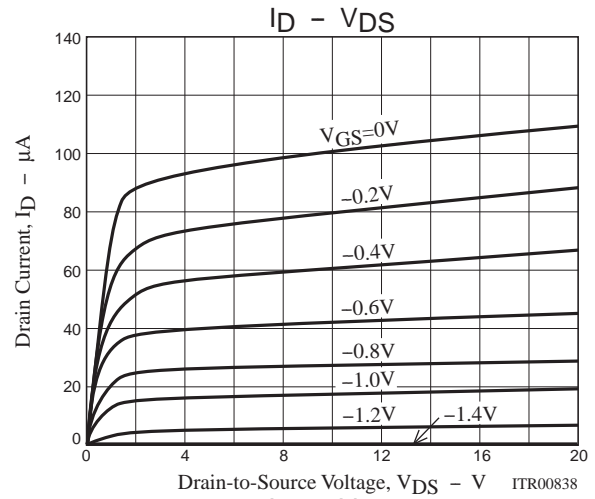
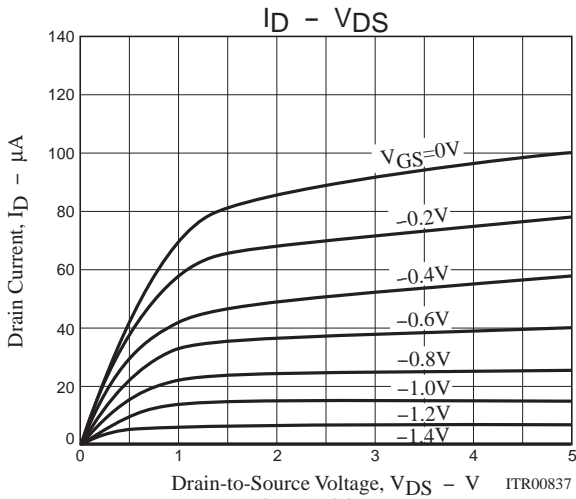
# 2SK3738

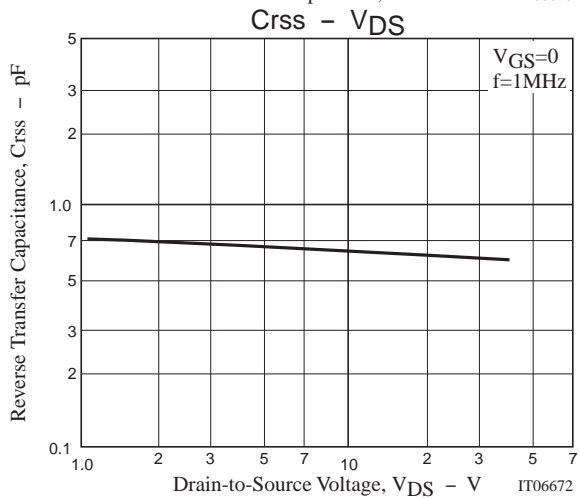
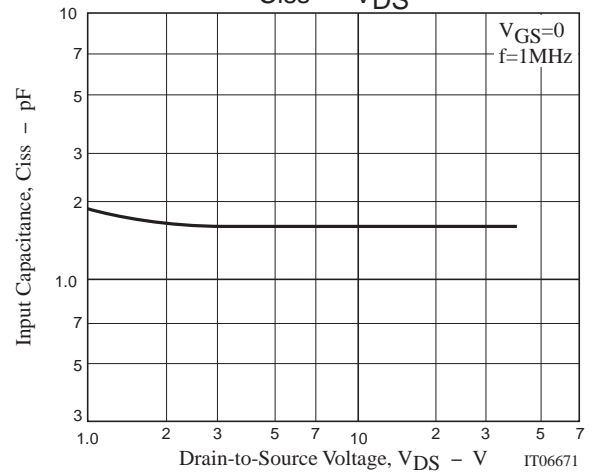
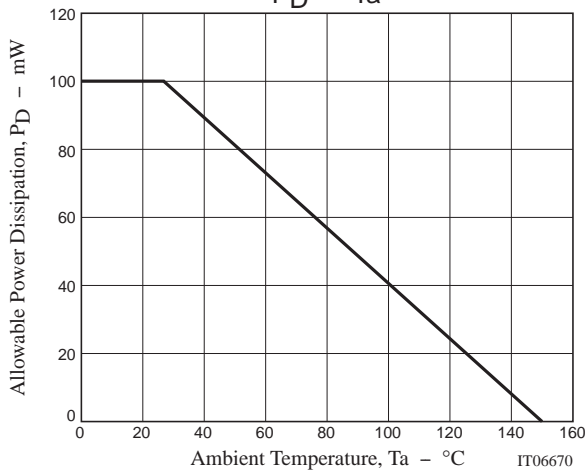
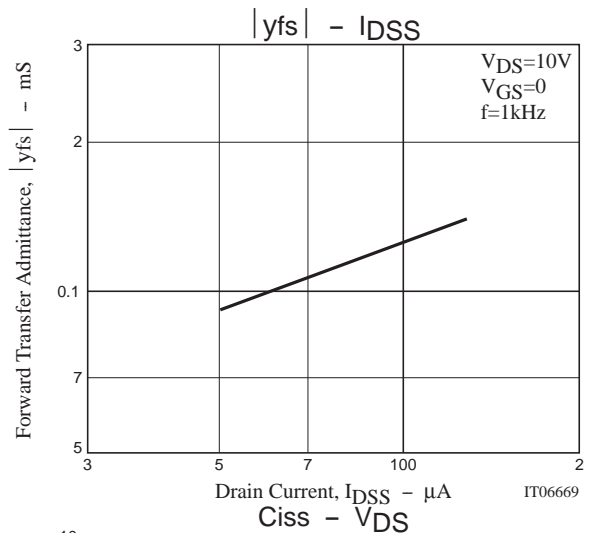
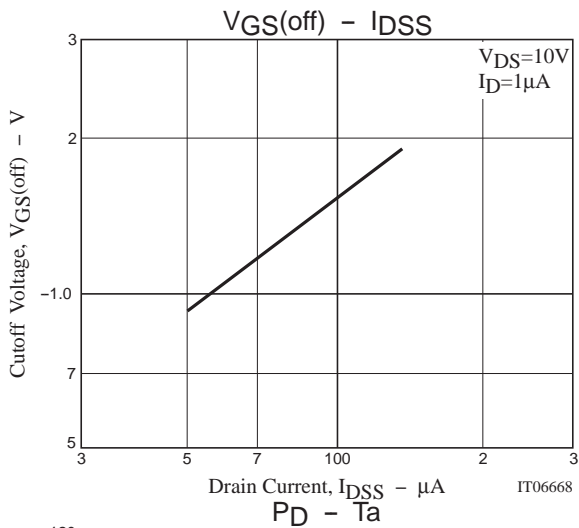
## Electrical Characteristics at Ta=25°C

| Parameter                       | Symbol               | Conditions  | Ratings |      |      | Unit |
|---------------------------------|----------------------|---|---------|------|------|------|
|                                 |                      |   | min     | typ  | max  |      |
| Gate-to-Drain Breakdown Voltage | V(BR)GDS             | I <sub>G</sub> =-10μA, V <sub>DS</sub> =0V        | -40     |      |      | V    |
| Gate Cutoff Current             | I <sub>GSS</sub>     | V <sub>GS</sub> =-20V, V <sub>DS</sub> =0V        |         |      | -500 | pA   |
| Cutoff Voltage                  | V <sub>GS(off)</sub> | V <sub>DS</sub> =10V, I <sub>D</sub> =1μA         |         | -1.5 | -2.3 | V    |
| Drain Current                   | I <sub>DSS</sub>     | V <sub>DS</sub> =10V, V <sub>GS</sub> =0V         |         | 50   | 130  | μA   |
| Forward Transfer Admittance     | y <sub>fs</sub>      | V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1kHz | 0.06    | 0.13 |      | mS   |
| Input Capacitance               | C <sub>iss</sub>     | V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1MHz |         | 1.7  |      | pF   |
| Reverse Transfer Capacitance    | C <sub>rss</sub>     |   |         | 0.7  |      | pF   |

## Ordering Information

| Device       | Package | Shipping       | memo    |
|--------------|---------|----------------|---------|
| 2SK3738-TL-E | SMCP    | 3,000pcs./reel | Pb Free |





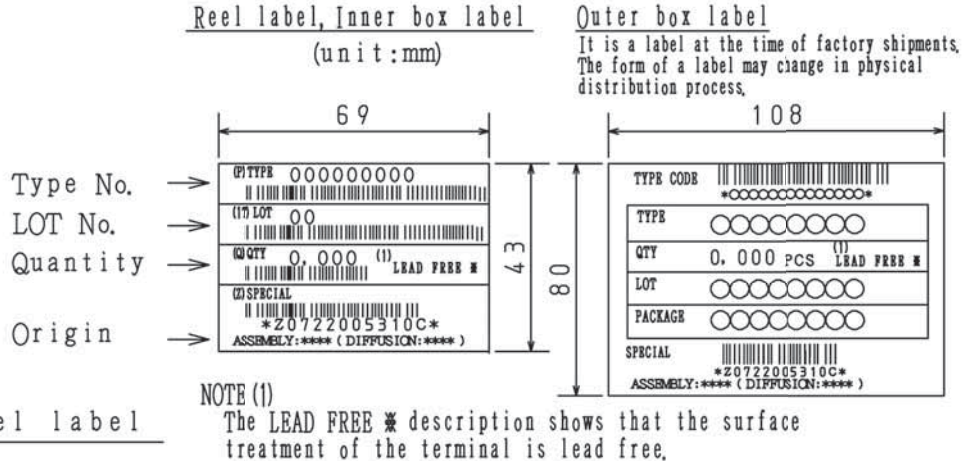
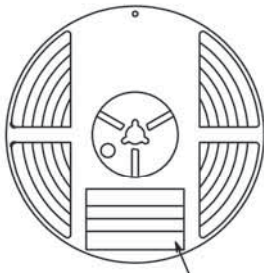
Embossed Taping Specification

2SK3738-TL-E

1. Packing Format

| Package Name | Carrier Tape Type | Maximum Number of devices contained (pcs) |           |           | Packing format  |  |
|--------------|-------------------|---|-----------|-----------|---|--|
|              |                   | Reel                                      | Inner box | Outer box | Inner BOX (C-1)   | Outer BOX (A-7)  |
| SMCP         | SMCP              | 3,000                                     | 15,000    | 90,000    | 5 reels contained<br>Dimensions:mm (external)<br>183×72×185 | 6 inner boxes contained<br>Dimensions:mm (external)<br>440×195×210 |

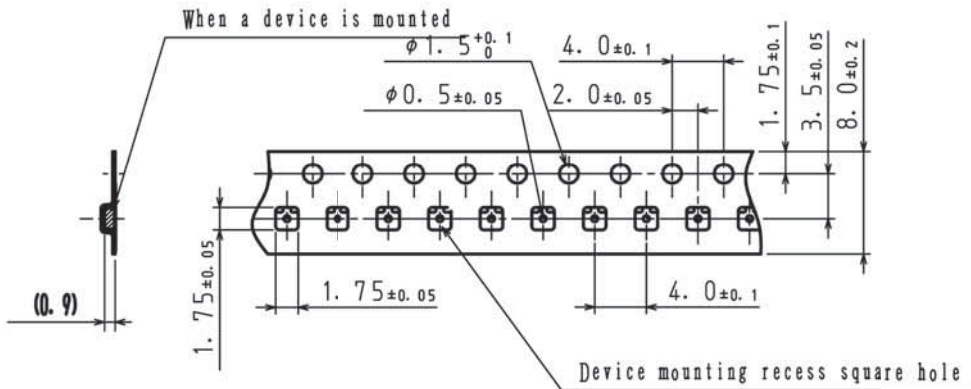
Packing method



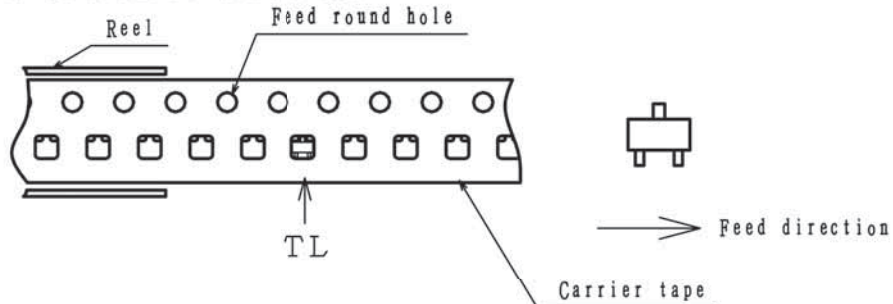
| Label | JEITA Phase   |
|-------|---------------|
| ..... | JEITA Phase 3 |

2. Taping configuration

2-1. Carrier tape size (unit:mm)



2-2. Device placement direction

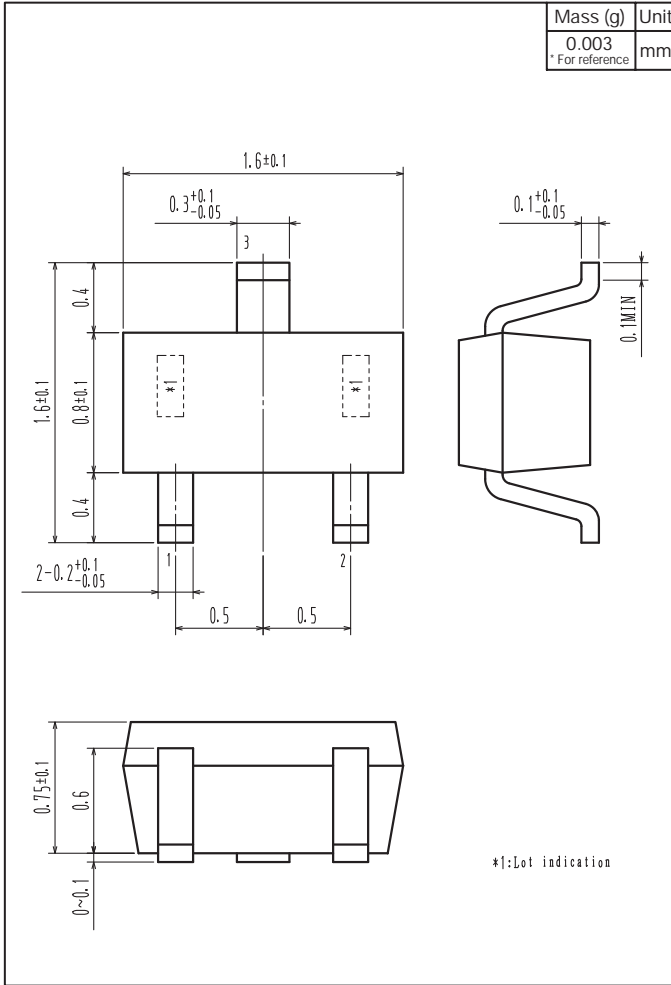


Those with one electrode terminal on the feed hole side.....TL

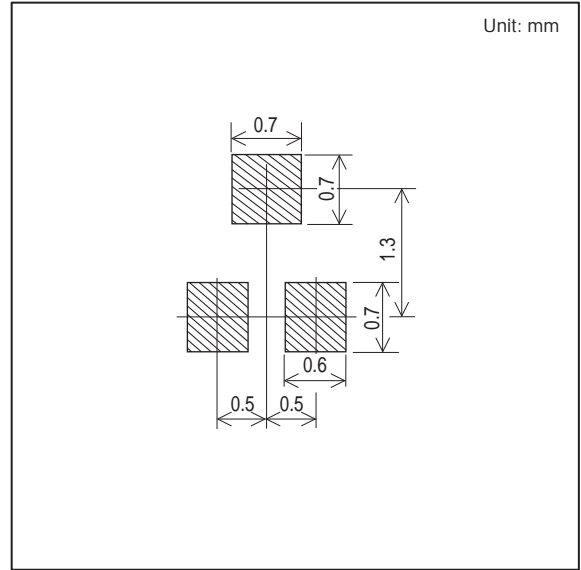
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## Outline Drawing

2SK3738-TL-E



## Land Pattern Example



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