



# 2SK3738

## N-Channel JFET

40V, 50 to 130 $\mu$ A, 0.13mS, SMCP

ON Semiconductor®

<http://onsemi.com>

### 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

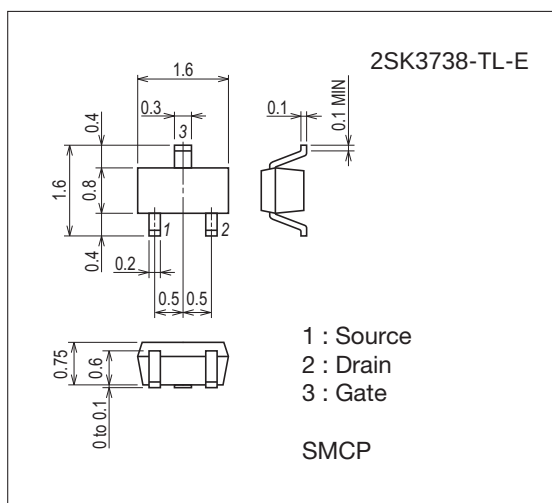
| Parameter                   | Symbol | Conditions | Ratings     | Unit |
|-----------------------------|--------|------------|-------------|------|
| Drain-to-Source Voltage     | VDSS   |            | 40          | V    |
| Gate-to-Drain Voltage       | VGDS   |            | -40         | V    |
| Gate Current                | IG     |            | 10          | mA   |
| Drain Current               | ID     |            | 1           | mA   |
| Allowable Power Dissipation | PD     |            | 100         | mW   |
| Junction Temperature        | Tj     |            | 150         | °C   |
| Storage Temperature         | Tstg   |            | -55 to +150 | °C   |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

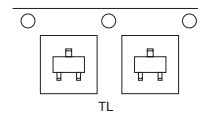
7027A-003



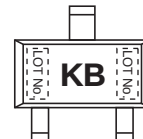
### Product & Package Information

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

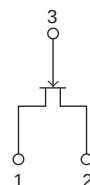
### Packing Type: TL



### Marking



### Electrical Connection

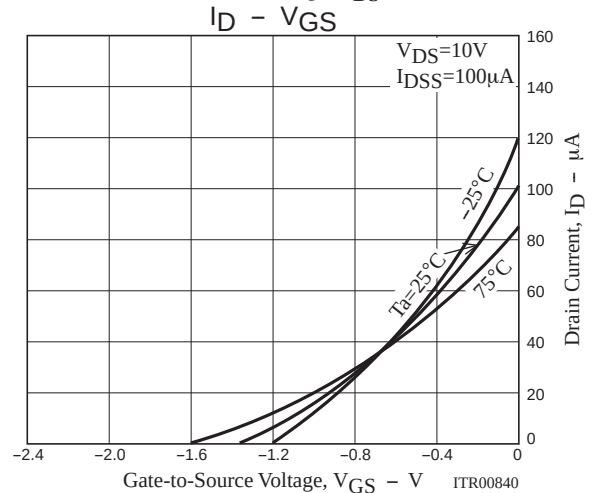
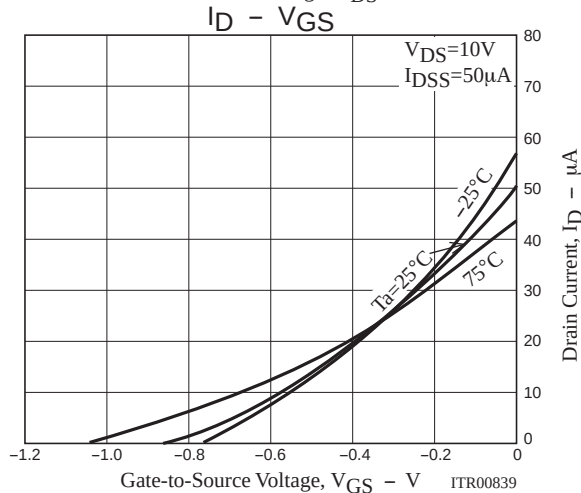
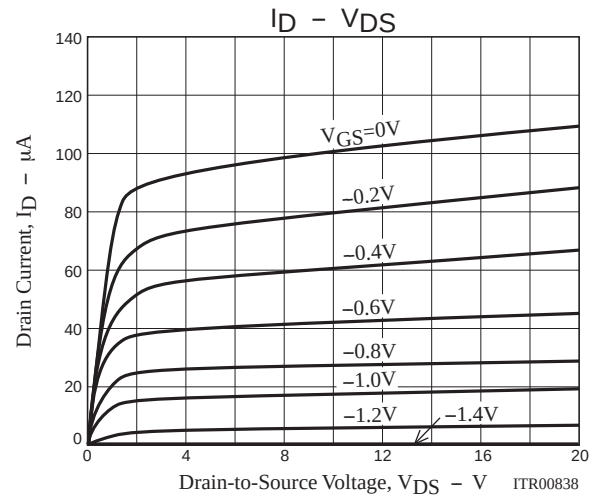
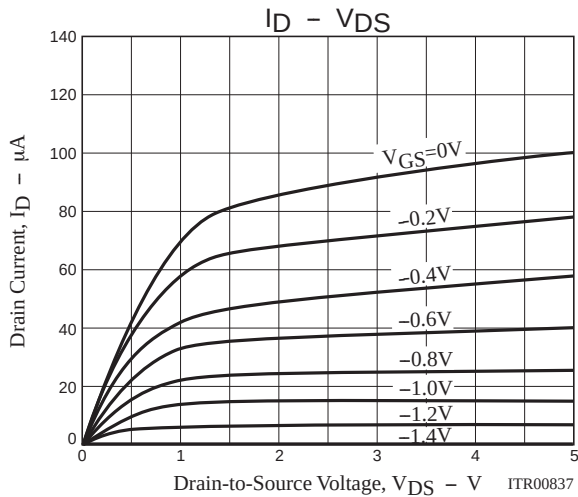


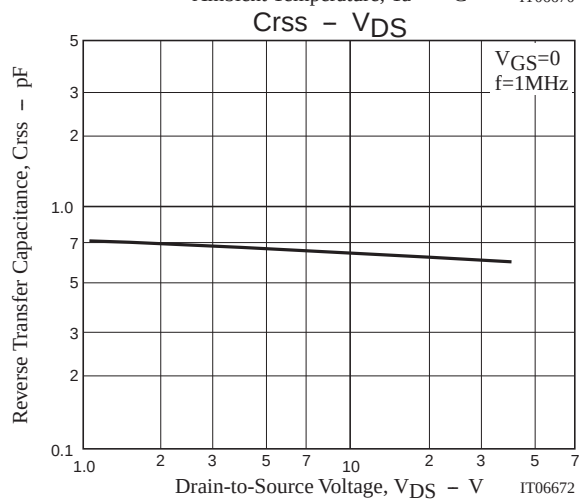
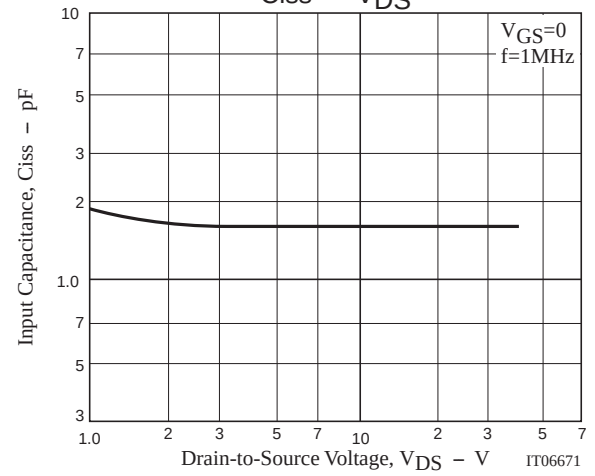
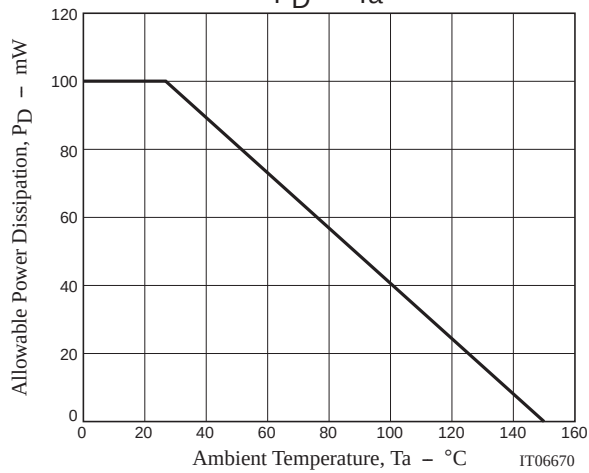
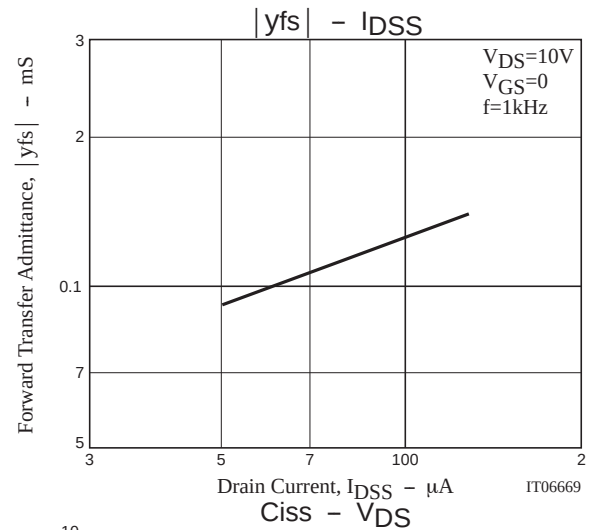
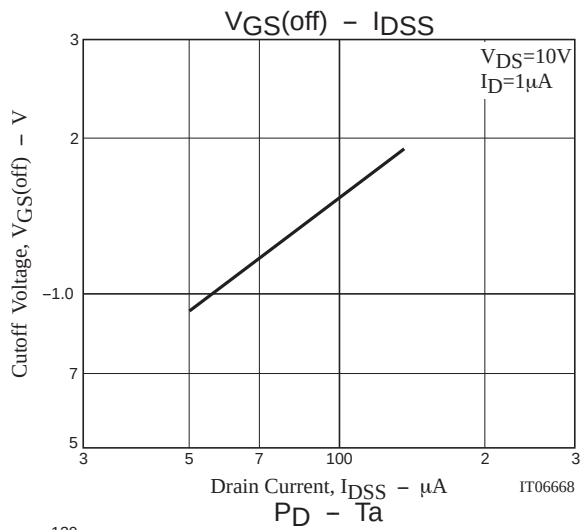
**Electrical Characteristics** at  $T_a=25^\circ\text{C}$ 

| Parameter                       | Symbol        | Conditions                                                 | Ratings |      |      | Unit          |
|---------------------------------|---------------|------------------------------------------------------------|---------|------|------|---------------|
|                                 |               |                                                            | min     | typ  | max  |               |
| Gate-to-Drain Breakdown Voltage | $V_{(BR)GDS}$ | $I_G=-10\mu\text{A}$ , $V_{DS}=0\text{V}$                  | -40     |      |      | V             |
| Gate Cutoff Current             | $I_{GSS}$     | $V_{GS}=-20\text{V}$ , $V_{DS}=0\text{V}$                  |         |      | -500 | pA            |
| Cutoff Voltage                  | $V_{GS(off)}$ | $V_{DS}=10\text{V}$ , $I_D=1\mu\text{A}$                   |         | -1.5 | -2.3 | V             |
| Drain Current                   | $I_{DSS}$     | $V_{DS}=10\text{V}$ , $V_{GS}=0\text{V}$                   | 50      |      | 130  | $\mu\text{A}$ |
| Forward Transfer Admittance     | $ y_{fs} $    | $V_{DS}=10\text{V}$ , $V_{GS}=0\text{V}$ , $f=1\text{kHz}$ | 0.06    | 0.13 |      | mS            |
| Input Capacitance               | $C_{iss}$     | $V_{DS}=10\text{V}$ , $V_{GS}=0\text{V}$ , $f=1\text{MHz}$ |         | 1.7  |      | pF            |
| Reverse Transfer Capacitance    | $C_{rss}$     |                                                            |         | 0.7  |      | pF            |

**Ordering Information**

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





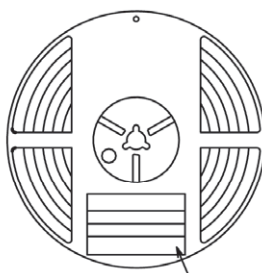
## Embossed Taping Specification

2SK3738-TL-E

## 1. Packing Format

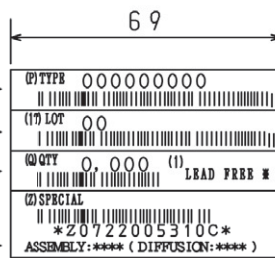
| Package Name | Carrier Tape Type | Maximum Number of devices contained (pcs) |           |           | Packing format                                              |                                                                    |
|--------------|-------------------|-------------------------------------------|-----------|-----------|-------------------------------------------------------------|--------------------------------------------------------------------|
|              |                   | 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



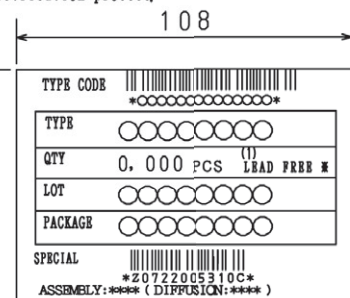
Reel label

Type No.  
LOT No.  
Quantity  
Origin

Reel label, Inner box label  
(unit:mm)

Outer box label

It is a label at the time of factory shipments.  
The form of a label may change in physical  
distribution process.



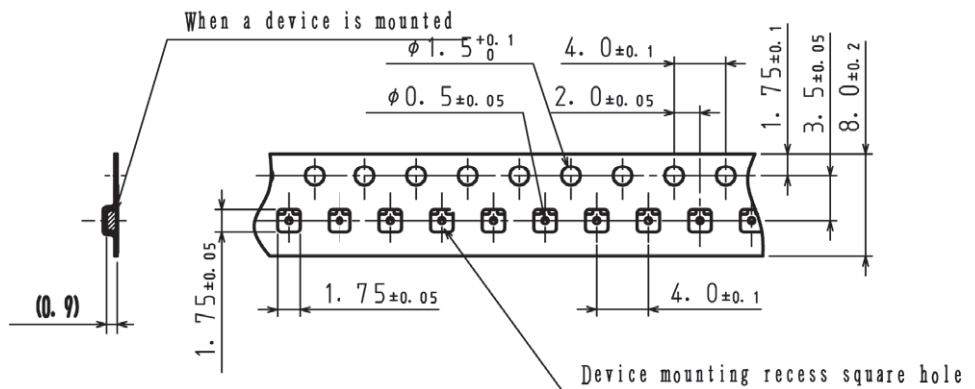
## NOTE (1)

The LEAD FREE \* description shows that the surface  
treatment of the terminal is lead free.

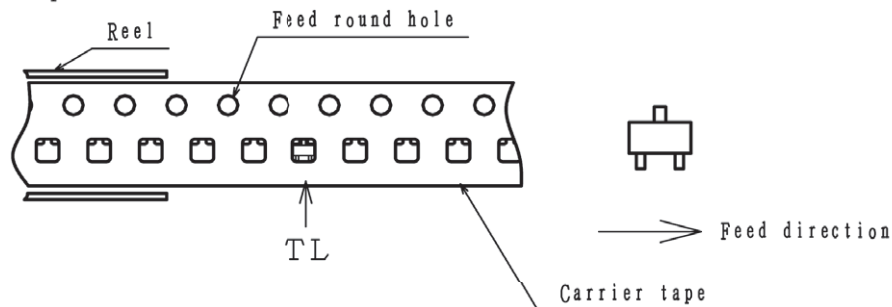
| Label | JEITA Phase   |
|-------|---------------|
| ..... | JEITA Phase 3 |

## 2. Taping configuration

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



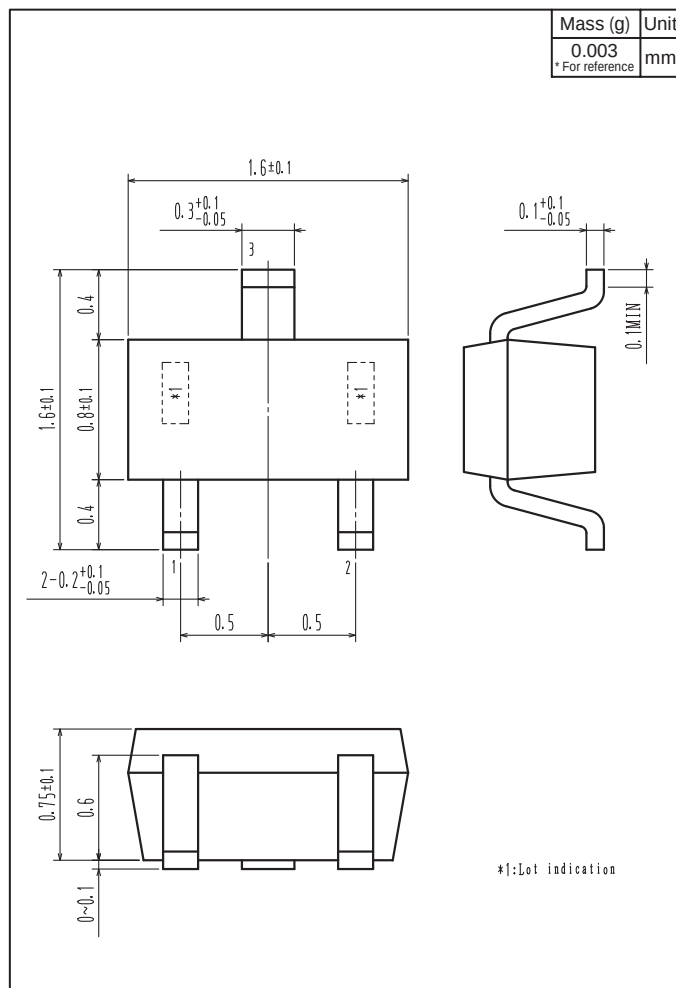
## 2-2. Device placement direction



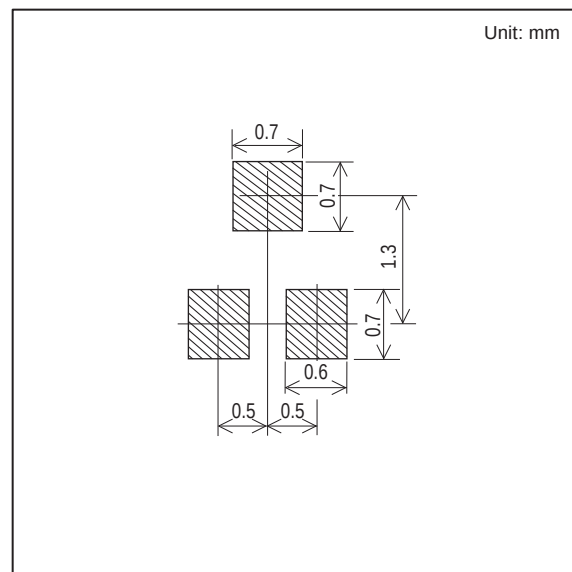
Those with one electrode terminal on the feed hole side.....TL

# Outline Drawing

2SK3738-TL-E



# Land Pattern Example



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