Ordering number : EN8636A

# 2SK3796

## N-Channel JFET
## 30V, 0.6 to 6.0mA, 6.5mS, SMCP

ON Semiconductor®
http://onsemi.com

### Applications

- Low-frequency general-purpose amplifier, impedance conversion, analog switches applications

### Features

- Small $I_{GSS}$
- Small Ciss

### Specifications

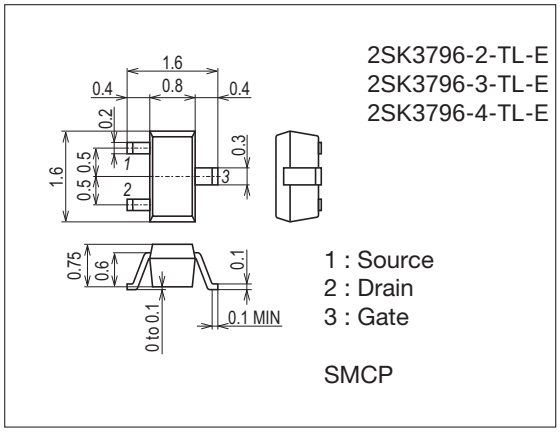
**Absolute Maximum Ratings** at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Drain-to-Source Voltage | $V_{DSX}$ | | 30 | V |
| Gate-to-Drain Voltage | $V_{GDS}$ | | −30 | V |
| Gate Current | $I_G$ | | 10 | mA |
| Drain Current | $I_D$ | | 10 | mA |
| Allowable Power Dissipation | $P_D$ | | 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

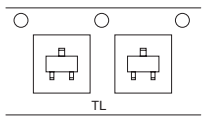
unit : mm (typ)
7013A-011



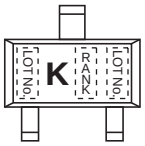

### Product & Package Information

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

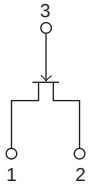
### Packing Type: TL




### Marking




### Electrical Connection



## Electrical Characteristics at Ta=25°C

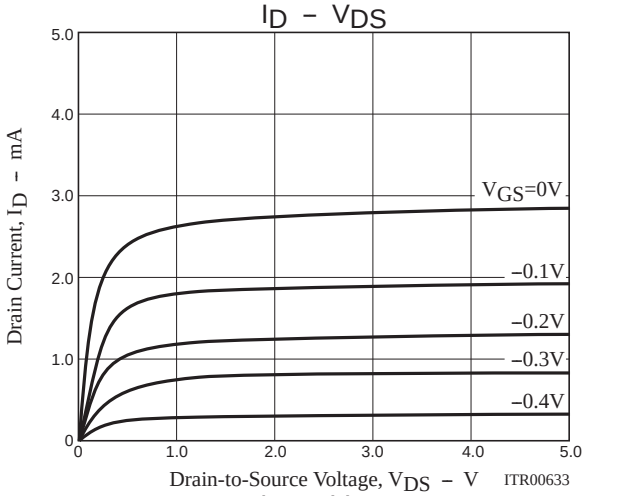
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Gate-to-Drain Breakdown Voltage | $V_{(BR)GDS}$ | $I_G$=−10μA, $V_{DS}$=0V | −30 | | | V |
| Gate Cutoff Current | $I_{GSS}$ | $V_{GS}$=−20V, $V_{DS}$=0V | | | −1.0 | nA |
| Cutoff Voltage | $V_{GS}$(off) | $V_{DS}$=10V, $I_D$=1μA | −0.18 | −0.95 | −2.2 | V |
| Drain Current | $I_{DSS}$ | $V_{DS}$=10V, $V_{GS}$=0V | 0.6* | | 6.0* | mA |
| Forward Transfer Admittance | \| yfs \| | $V_{DS}$=10V, $V_{GS}$=0V, f=1kHz | 3.0 | 6.5 | | mS |
| Input Capacitance | Ciss | $V_{DS}$=10V, $V_{GS}$=0V, f=1MHz | | 4 | | pF |
| Reverse Transfer Capacitance | Crss | $V_{DS}$=10V, $V_{GS}$=0V, f=1MHz | | 1.1 | | pF |
| Static Drain-to-Source On-State Resistance | $R_{DS}$(on) | $V_{DS}$=10mV, $V_{GS}$=10V | | 200 | | Ω |

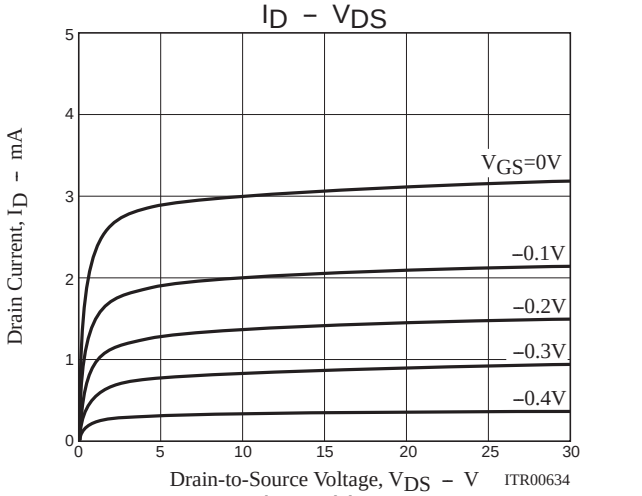
* : The 2SK3796 is classified by $I_{DSS}$ as follows : (unit : mA)

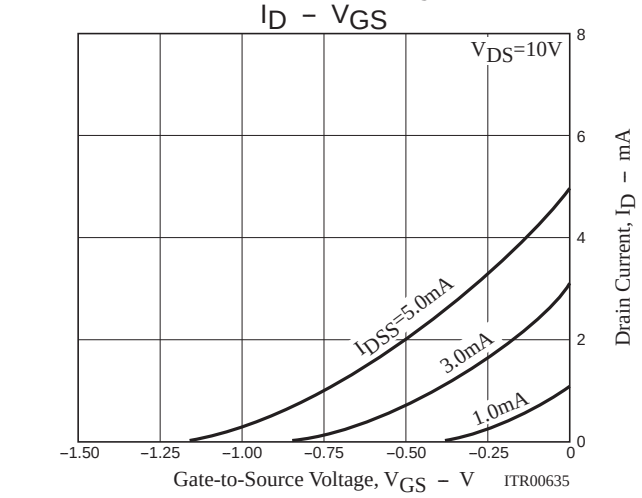
| Rank | 2 | 3 | 4 |
|---|---|---|---|
| $I_{DSS}$ | 0.6 to 1.5 | 1.2 to 3.0 | 2.5 to 6.0 |

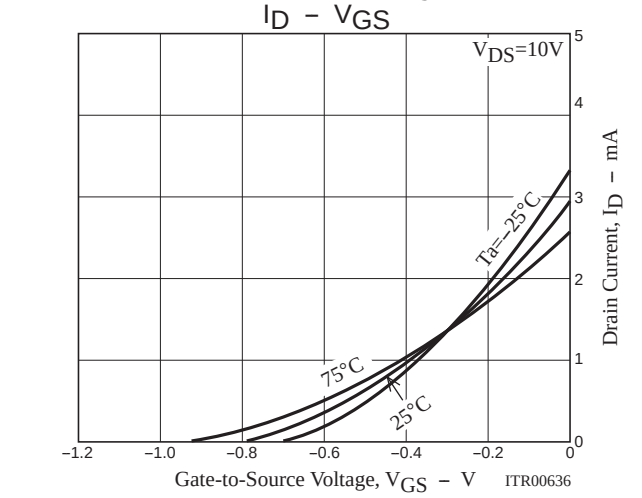
## Ordering Information

| Device | Package | Shipping | memo |
|---|---|---|---|
| 2SK3796-2-TL-E | SMCP | 3,000pcs./reel | Pb Free |
| 2SK3796-3-TL-E | SMCP | 3,000pcs./reel | |
| 2SK3796-4-TL-E | SMCP | 3,000pcs./reel | |

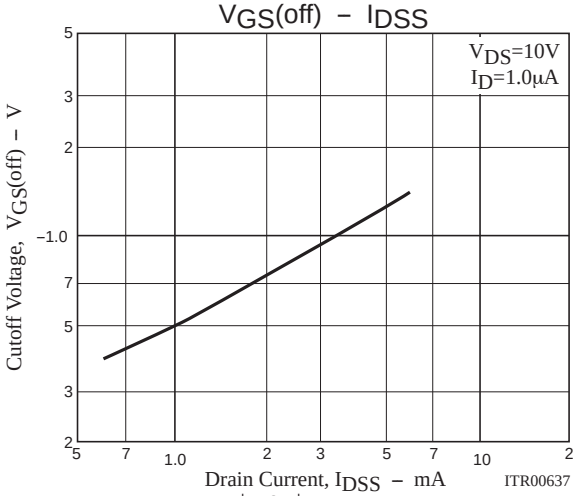


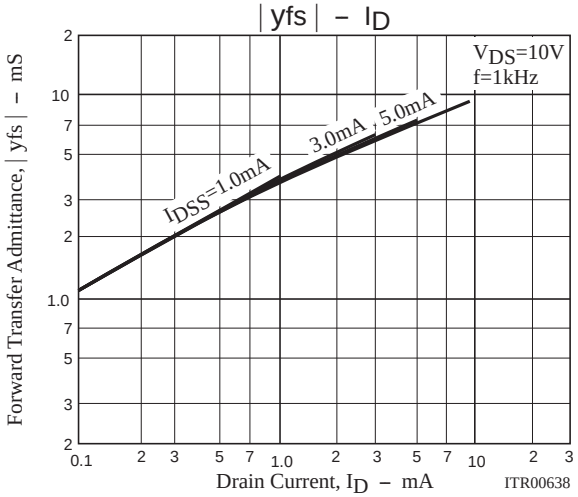



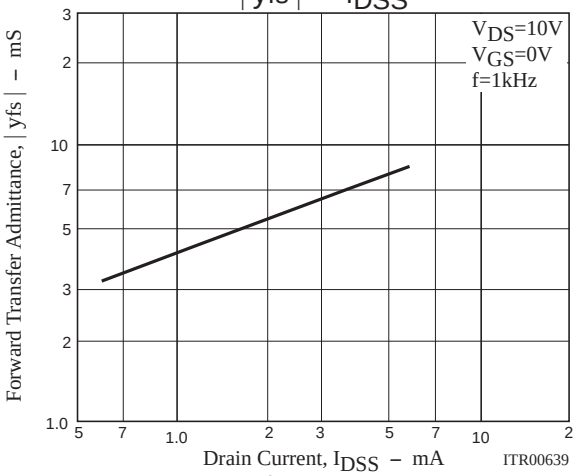
$V_{GS(off)}$ – $I_{DSS}$



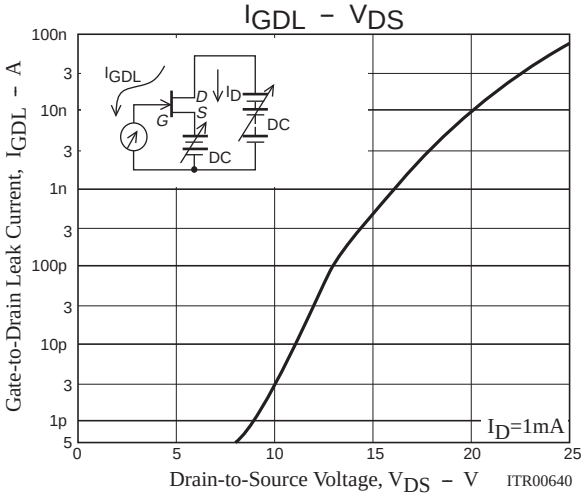

| yfs | – $I_D$



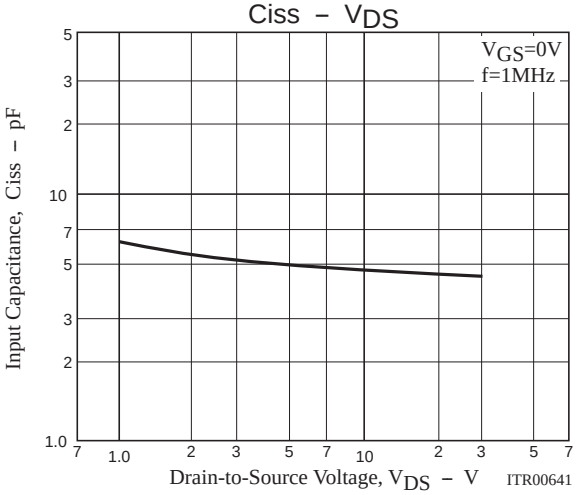

| yfs | – $I_{DSS}$



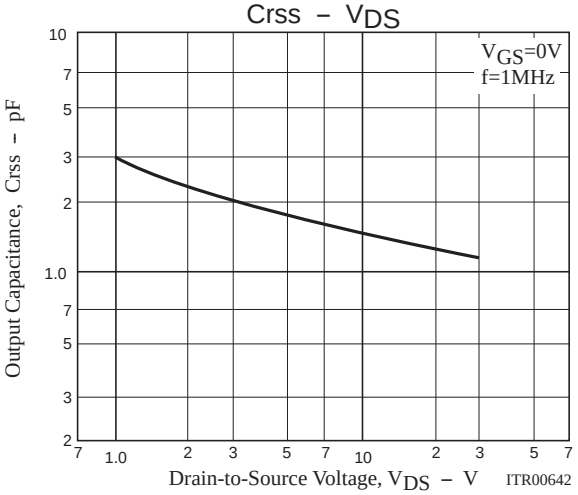

$I_{GDL}$ – $V_{DS}$



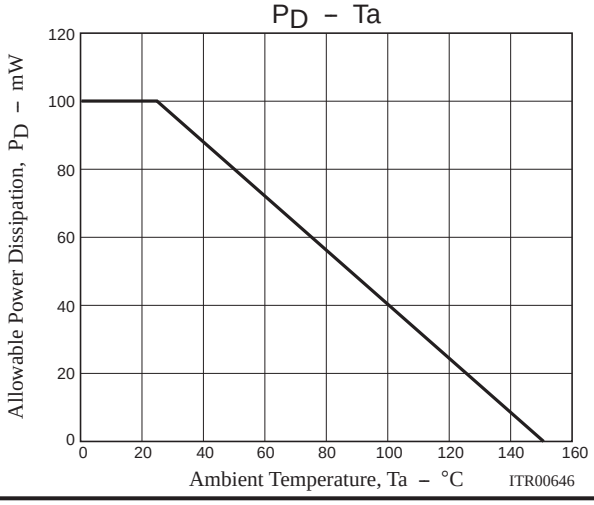

Ciss – $V_{DS}$




Crss – $V_{DS}$




$P_D$ – Ta



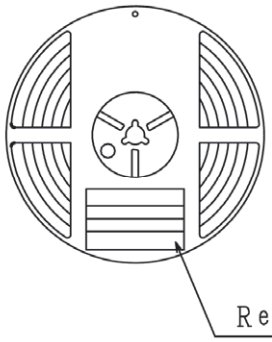
**Embossed Taping Specification**

2SK3796-2-TL-E, 2SK3796-3-TL-E, 2SK3796-4-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 |

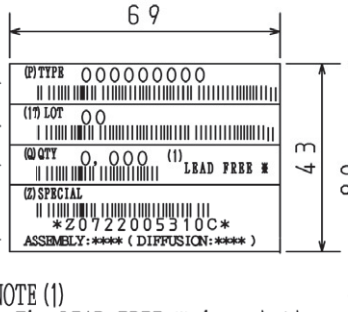
Packing method



Reel label

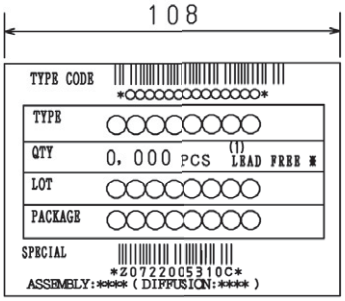
Reel label, Inner box label

(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.

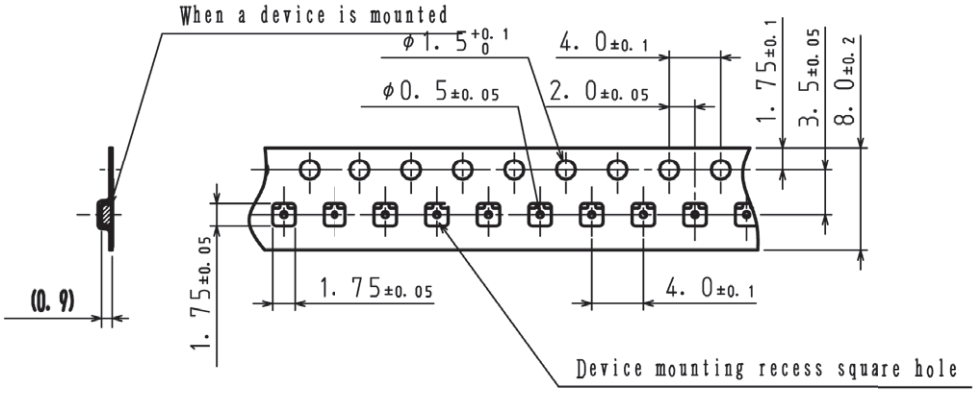



NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

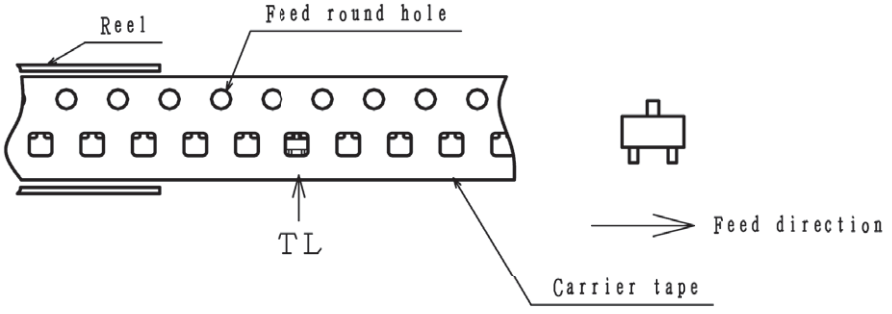
| Label | JEITA Phase |
|---|---|
| •••••••••• | JEITA Phase 3 |

## 2. Taping configuration

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



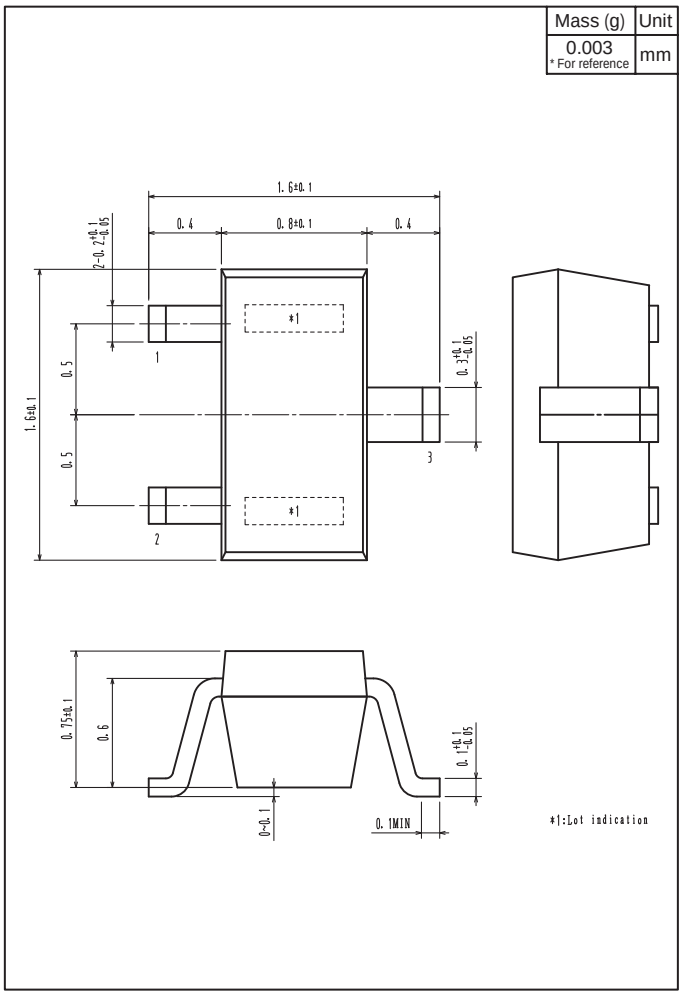

### 2-2. Device placement direction



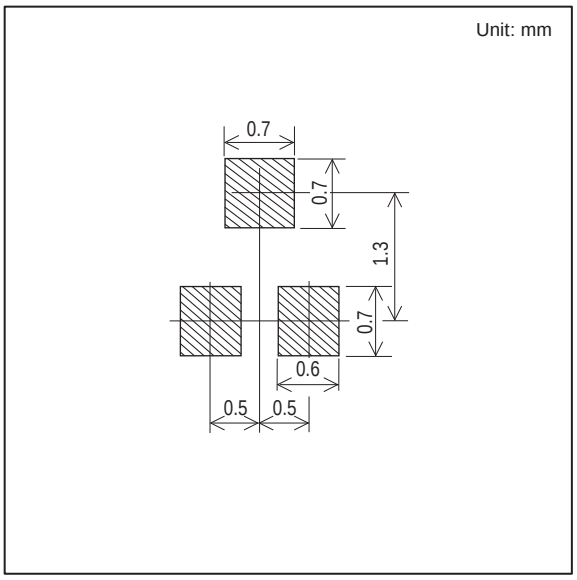

Those with one electrode terminal on the feed hole side·····TL

## Outline Drawing

2SK3796-2-TL-E, 2SK3796-3-TL-E, 2SK3796-4-TL-E




## Land Pattern Example



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