



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

2SK2394

— N-Channel Junction Silicon FET
Low-Noise HF Amplifier Applications

Applications

- AM tuner RF amplifier
- Low-noise amplifier

Features

- Large $|yfs|$
- Small C_{iss}
- Small-sized package permitting 2SK2394-applied sets to be made small slim
- Ultralow noise figure

Specifications

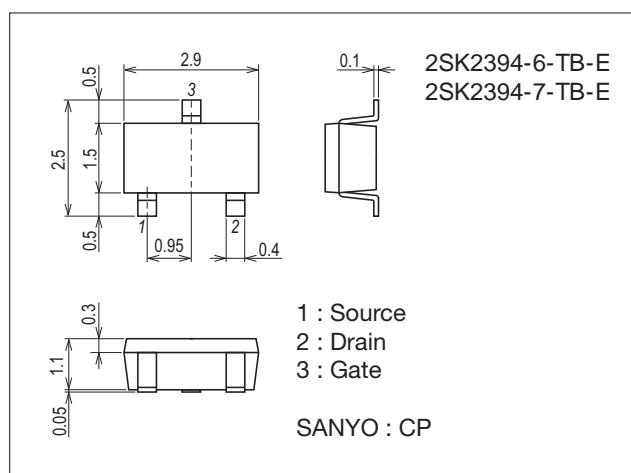
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|-----------|------------|-------------|------|
| Drain-to-Source Voltage | V_{DSX} | | 15 | V |
| Gate-to-Drain Voltage | V_{GDS} | | -15 | V |
| Gate Current | I_G | | 10 | mA |
| Drain Current | I_D | | 50 | mA |
| Allowable Power Dissipation | P_D | | 200 | mW |
| Junction Temperature | T_j | | 150 | °C |
| Storage Temperature | T_{stg} | | -55 to +150 | °C |

Package Dimensions

unit : mm (typ)

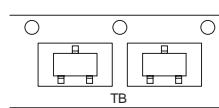
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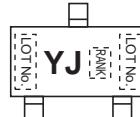
Product & Package Information

- Package : CP
- JEITA, JEDEC : SC-59, TO-236, SOT-23, TO-236AB
- Minimum Packing Quantity : 3,000 pcs./reel

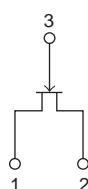
Packing Type: TB



Marking



Electrical Connection



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

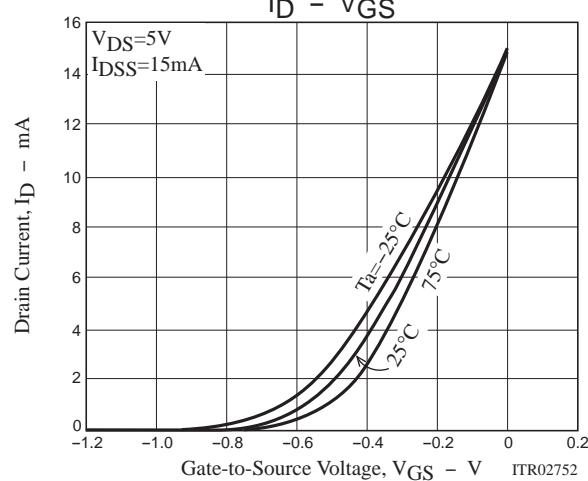
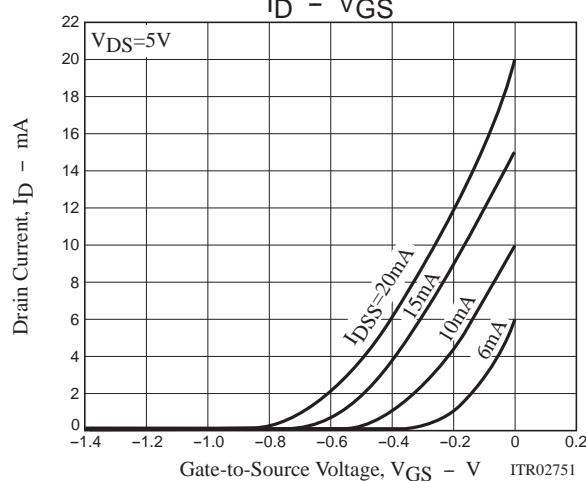
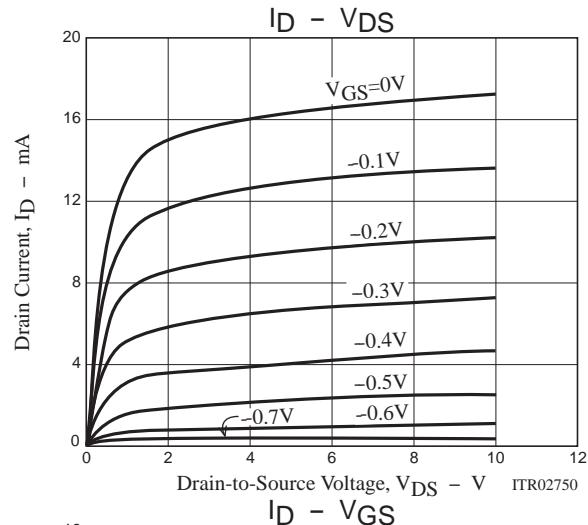
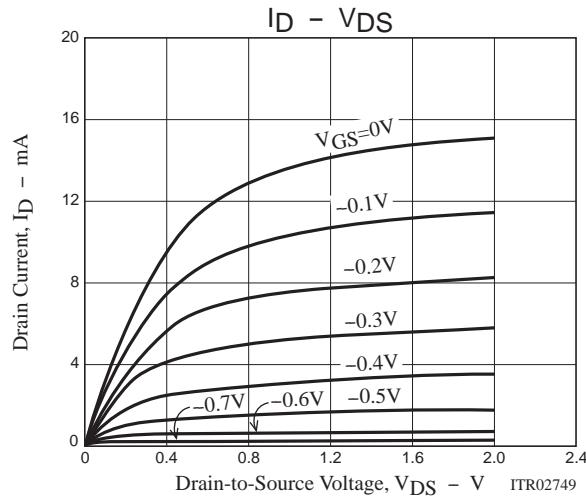
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---------------------------------|-----------------------------|---|---------|------|-------|------|
| | | | min | typ | max | |
| Gate-to-Drain Breakdown Voltage | $V_{(\text{BR})\text{GDS}}$ | $I_{\text{G}}=-10\mu\text{A}, V_{\text{DS}}=0\text{V}$ | -15 | | | V |
| Gate Cutoff Current | I_{GSS} | $V_{\text{GS}}=-10\text{V}, V_{\text{DS}}=0\text{V}$ | | | -1.0 | nA |
| Cutoff Voltage | $V_{\text{GS}(\text{off})}$ | $V_{\text{DS}}=5\text{V}, I_{\text{D}}=100\mu\text{A}$ | -0.3 | -0.7 | -1.5 | V |
| Drain Current | I_{DSS} | $V_{\text{DS}}=5\text{V}, V_{\text{GS}}=0\text{V}$ | 6.0* | | 32.0* | mA |
| Forward Transfer Admittance | $ y_{\text{fs}} $ | $V_{\text{DS}}=5\text{V}, V_{\text{GS}}=0\text{V}, f=1\text{kHz}$ | 20 | 38 | | mS |
| Input Capacitance | C_{iss} | $V_{\text{DS}}=5\text{V}, V_{\text{GS}}=0\text{V}, f=1\text{MHz}$ | | 10.0 | | pF |
| Reverse Transfer Capacitance | C_{rss} | | | 2.9 | | pF |
| Noise Figure | NF | $V_{\text{DS}}=5\text{V}, R_{\text{g}}=1\text{k}\Omega, I_{\text{D}}=1\text{mA}, f=1\text{kHz}$ | | 1.0 | | dB |

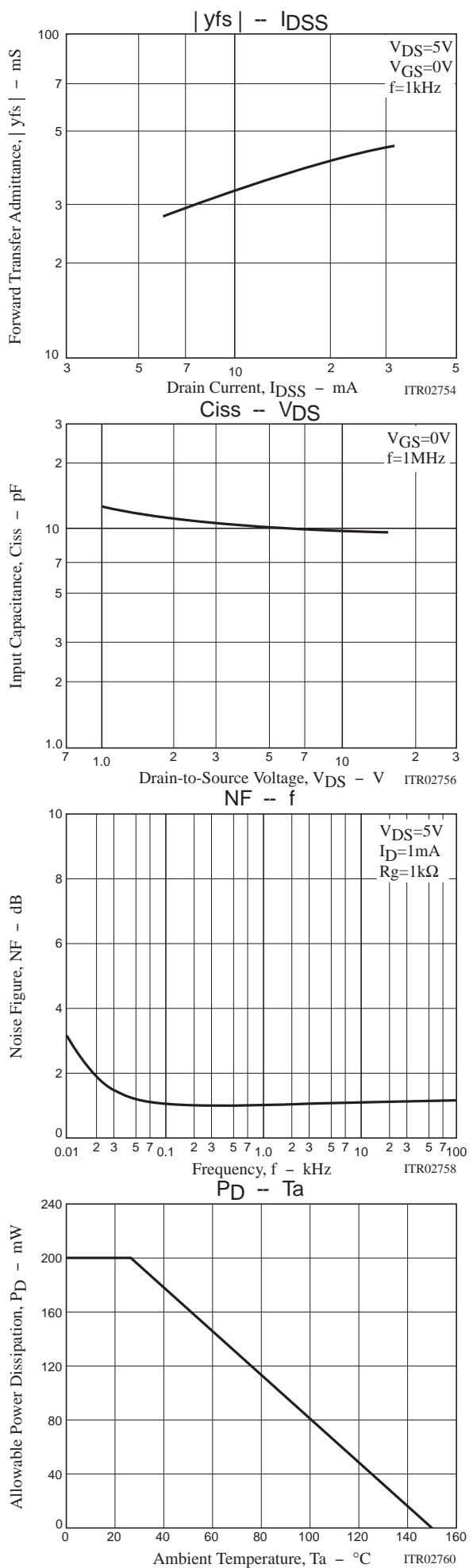
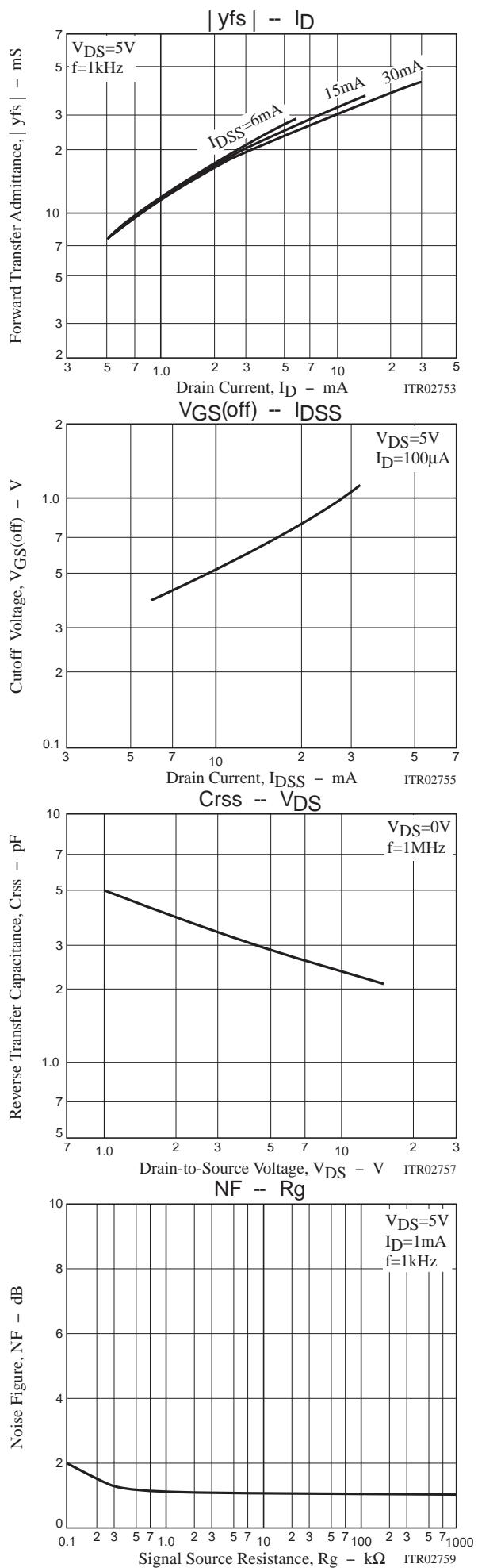
* : The 2SK2394 is classified by I_{DSS} as follows : (unit : mA)

| Rank | 5 | 6 | 7 |
|------------------|-------------|--------------|--------------|
| I_{DSS} | 6.0 to 12.0 | 10.0 to 20.0 | 16.0 to 32.0 |

Ordering Information

| Device | Package | Shipping | memo |
|----------------|---------|----------------|---------|
| 2SK2394-6-TB-E | CP | 3,000pcs./reel | |
| 2SK2394-7-TB-E | CP | 3,000pcs./reel | Pb Free |



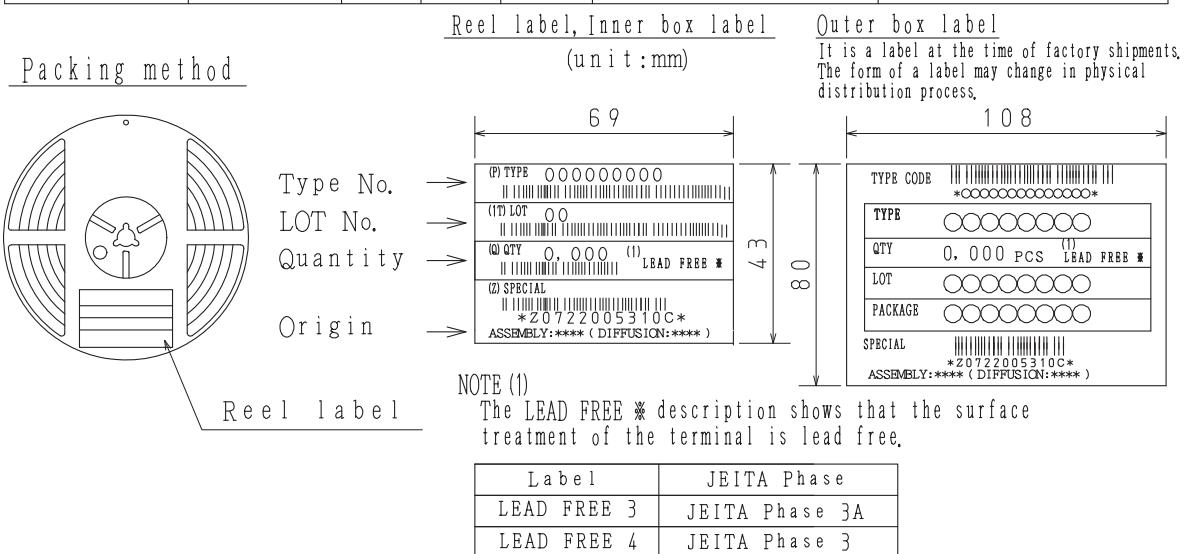
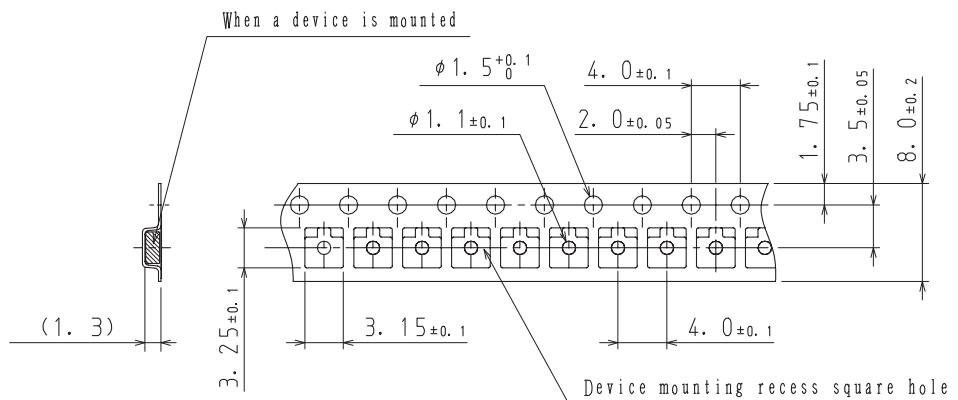
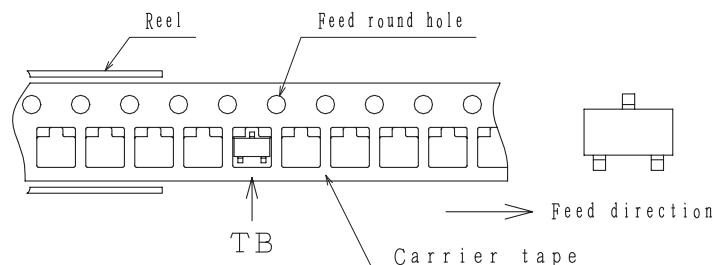


Embossed Taping Specification

2SK2394-6-TB-E, 2SK2394-7-TB-E

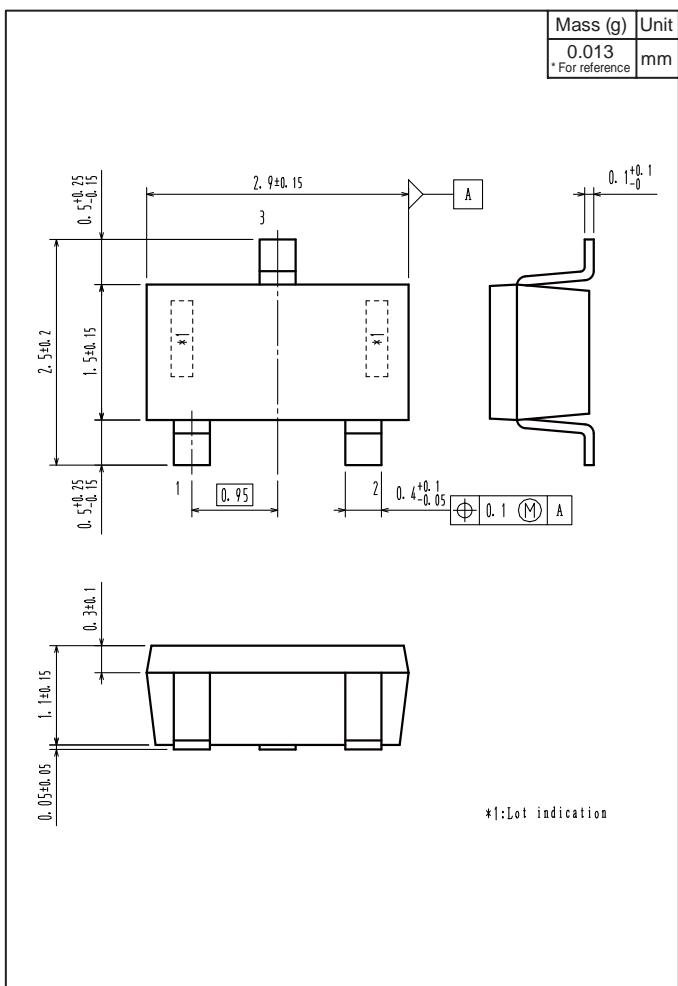
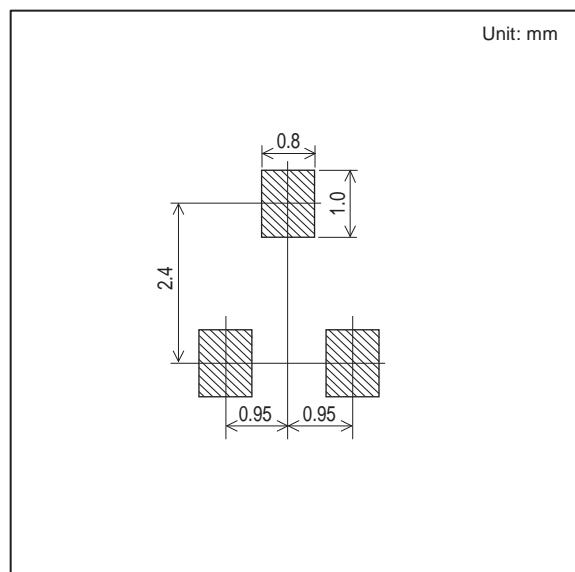
1. Packing Format

| 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) |
| CP | CP | 3,000 | 15,000 | 90,000 | 5 reels contained Dimensions:mm (external) 183×72×185 | 6 inner boxes contained Dimensions:mm (external) 440×195×210 |

**2. Taping configuration****2-1. Carrier tape size (unit:mm)****2-2. Device placement direction**

Outline Drawing

2SK2394-6-TB-E, 2SK2394-7-TB-E

**Land Pattern Example**

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