Ordering number : EN4839B

2SK2394

N-Channel JFET
15V, 6 to 32mA, 38mS, CP

ON Semiconductor®
http://onsemi.com

Applications

- AM tuner RF amplifier
- Low-noise amplifier

Features

- Large | yfs |
- Small Ciss
- Small-sized package permitting 2SK2394-applied sets to be made small slim
- Ultralow noise figure

Specifications

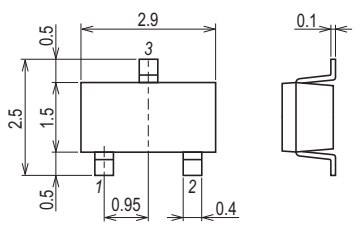
Absolute Maximum Ratings at Ta=25°C

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	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



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

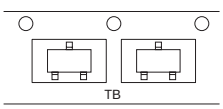
1 : Source
2 : Drain
3 : Gate

CP

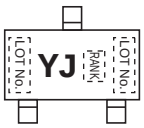
Product & Package Information

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

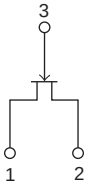
Packing Type: TB



Marking



Electrical Connection



Electrical Characteristics at Ta=25°C

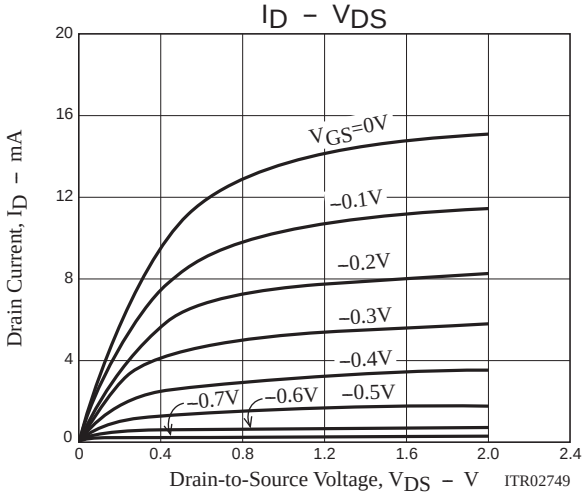
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G=−10μA, V_{DS}=0V	−15			V
Gate Cutoff Current	I_{GSS}	V_{GS}=−10V, V_{DS}=0V			−1.0	nA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=5V, I_D=100μA	−0.3	−0.7	−1.5	V
Drain Current	I_{DSS}	V_{DS}=5V, V_{GS}=0V	6.0*		32.0*	mA
Forward Transfer Admittance	| yfs |	V_{DS}=5V, V_{GS}=0V, f=1kHz	20	38		mS
Input Capacitance	Ciss	V_{DS}=5V, V_{GS}=0V, f=1MHz		10.0		pF
Reverse Transfer Capacitance	Crss			2.9		pF
Noise Figure	NF	V_{DS}=5V, R_g=1kΩ, I_D=1mA, f=1kHz		1.0		dB

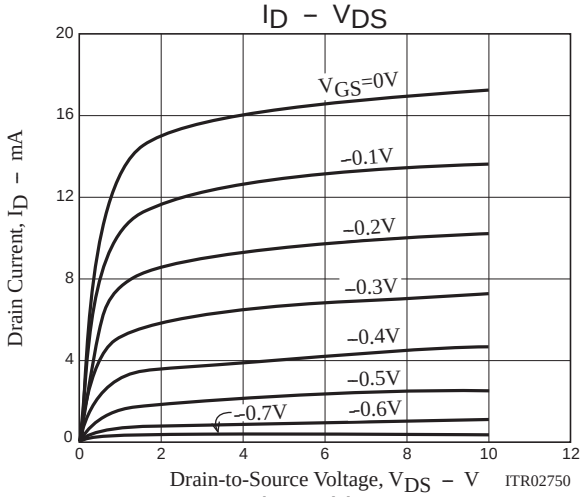
* : The 2SK2394 is classified by I_{DSS} as follows : (unit : mA)

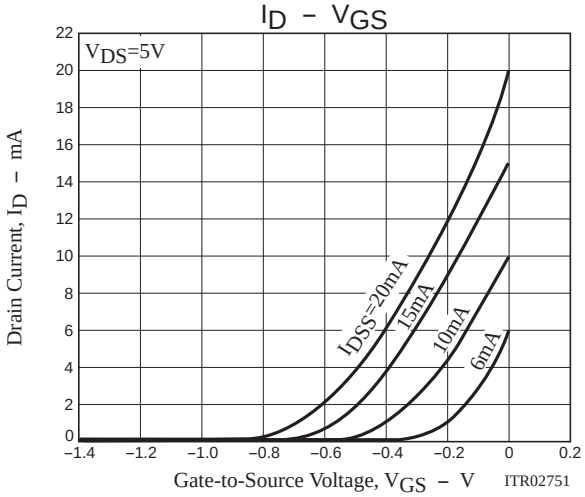
Rank	5	6	7
I_{DSS}	6.0 to 12.0	10.0 to 20.0	16.0 to 32.0

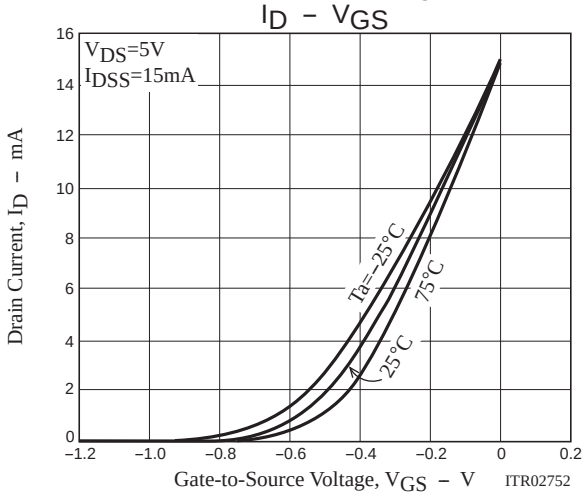
Ordering Information

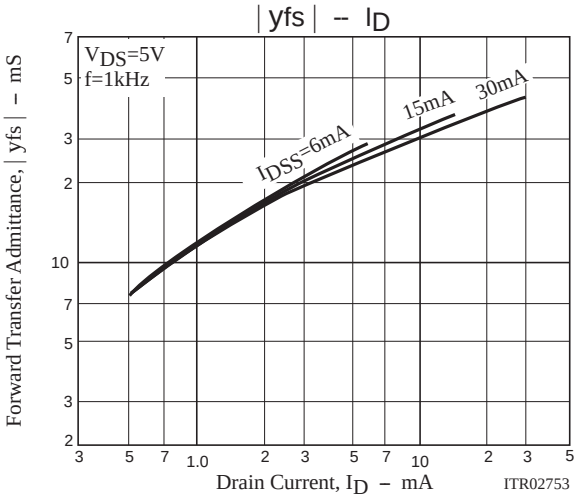
Device	Package	Shipping	memo
2SK2394-6-TB-E	CP	3,000pcs./reel	Pb Free
2SK2394-7-TB-E	CP	3,000pcs./reel	

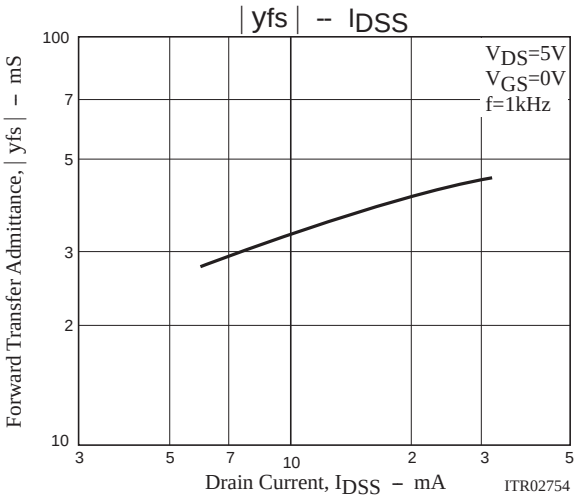


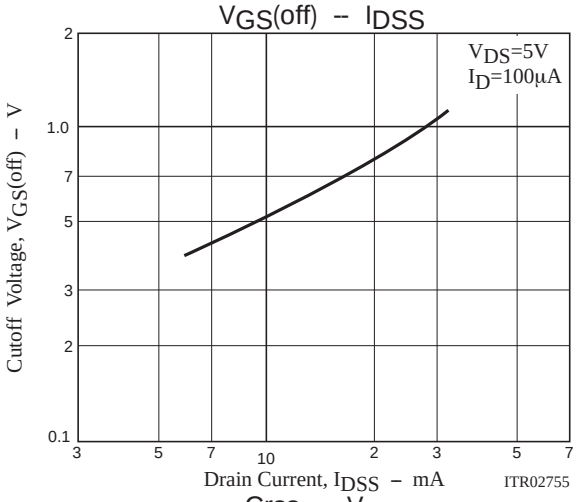


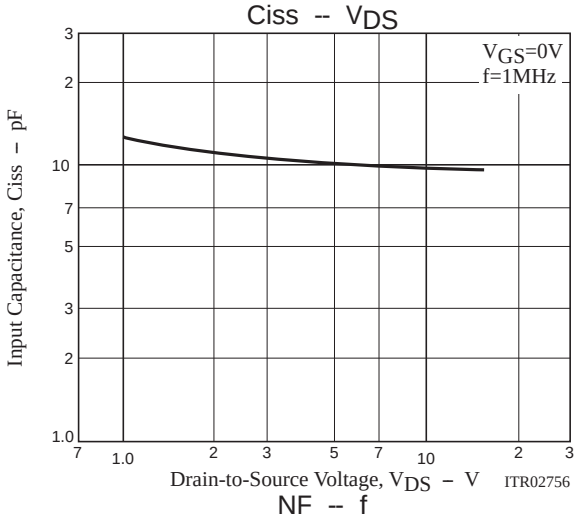


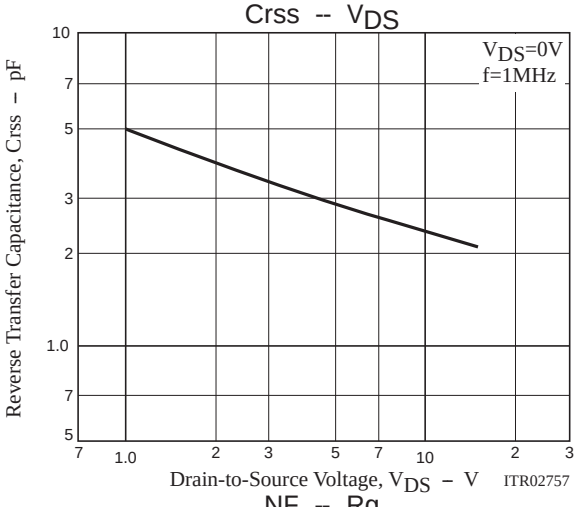


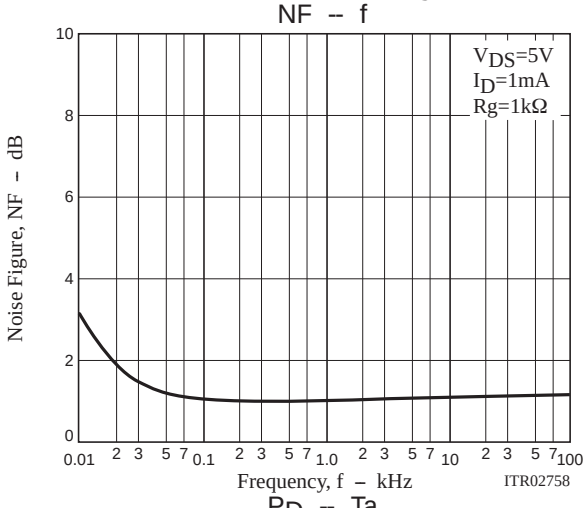

| yfs | -- ID
VDS=5V
f=1kHz
IDSS=6mA
15mA
30mA
Forward Transfer Admittance, | yfs | – mS
Drain Current, ID – mA
ITR02753

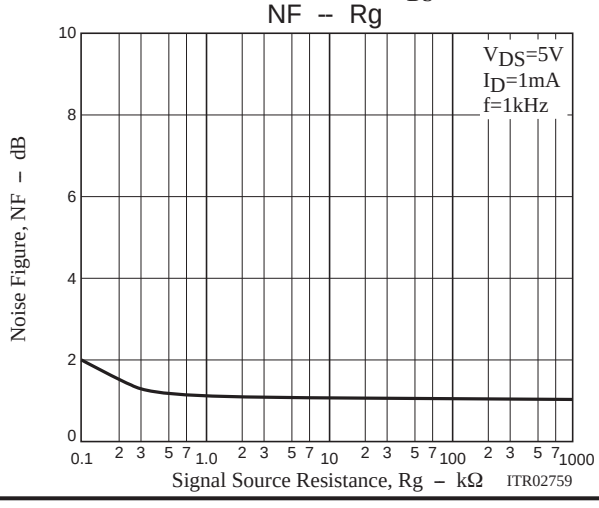

| yfs | -- IDSS
VDS=5V
VGS=0V
f=1kHz
Forward Transfer Admittance, | yfs | – mS
Drain Current, IDSS – mA
ITR02754

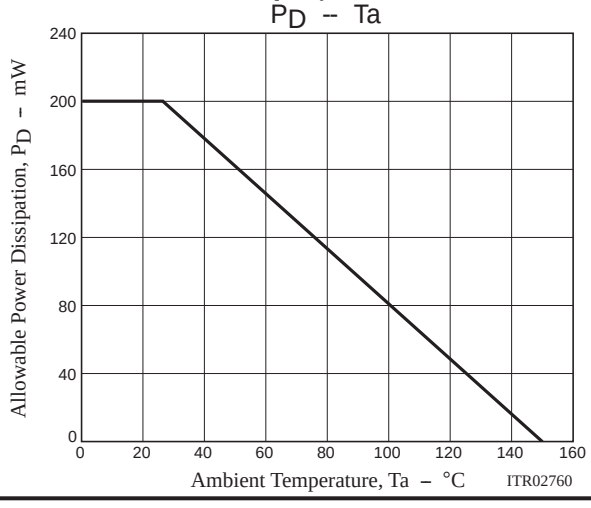

VGS(off) -- IDSS
VDS=5V
ID=100μA
Cutoff Voltage, VGS(off) – V
Drain Current, IDSS – mA
ITR02755


Ciss -- VDS
VGS=0V
f=1MHz
Input Capacitance, Ciss – pF
Drain-to-Source Voltage, VDS – V
ITR02756


Crss -- VDS
VDS=0V
f=1MHz
Reverse Transfer Capacitance, Crss – pF
Drain-to-Source Voltage, VDS – V
ITR02757


NF -- f
VDS=5V
ID=1mA
Rg=1kΩ
Noise Figure, NF – dB
Frequency, f – kHz
ITR02758


NF -- Rg
VDS=5V
ID=1mA
f=1kHz
Noise Figure, NF – dB
Signal Source Resistance, Rg – kΩ
ITR02759


PD -- Ta
Allowable Power Dissipation, PD – mW
Ambient Temperature, Ta – °C
ITR02760

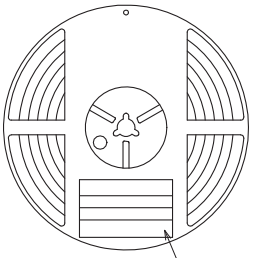
Embossed Taping Specification

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

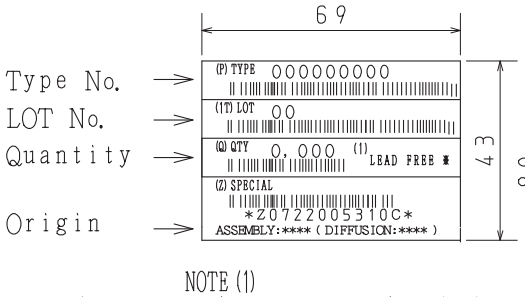
Packing method



Reel label

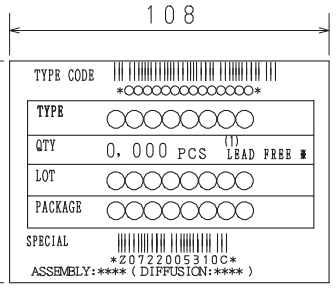
Reel label, Inner box label

(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.

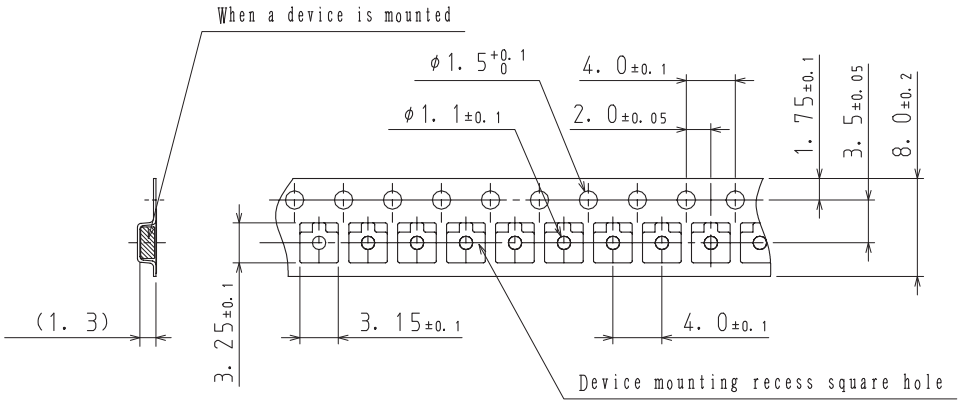


NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

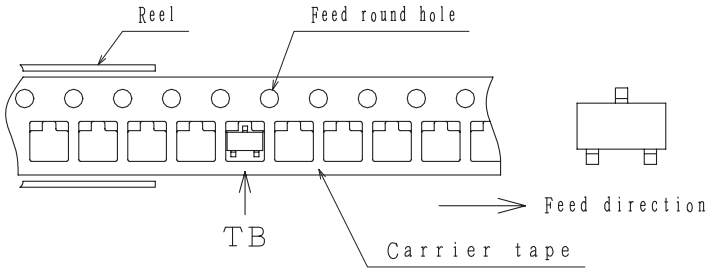
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



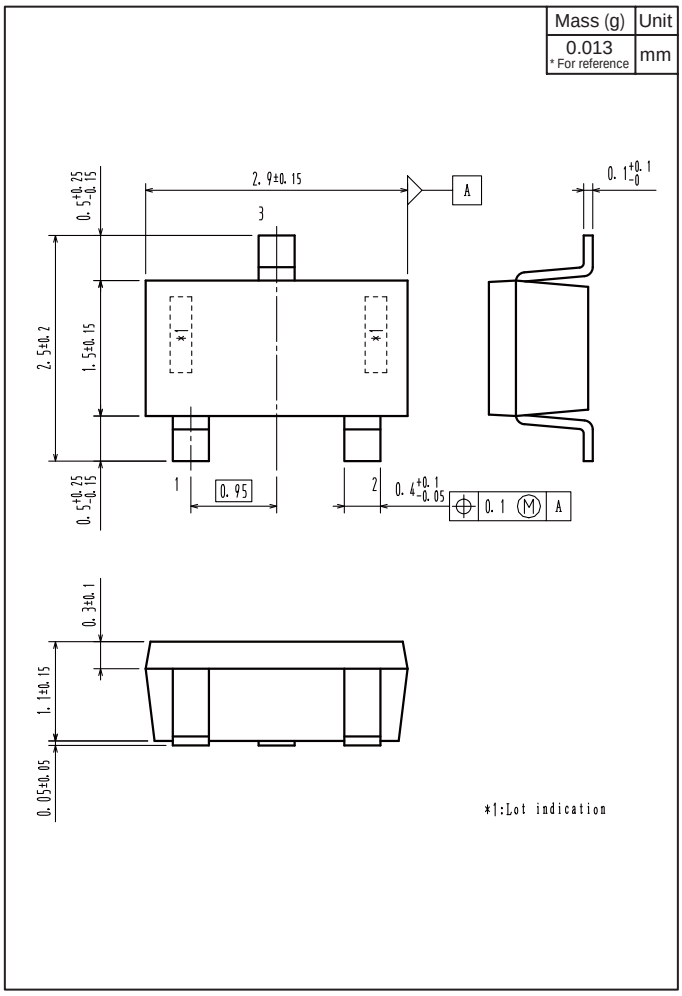
2-2. Device placement direction



Those with one electrode terminal on the feed hole side……TB

Outline Drawing

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



Land Pattern Example