Ordering number : EN4901A

SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

3SK264 — VHF Tuner, High-Frequency Amplifier Applications

Features

- Enhancement type
- Easy AGC (Cut off at V_{G2S}=0V)
- Small noise figure
- Excels in cross modulation characteristics

Specifications

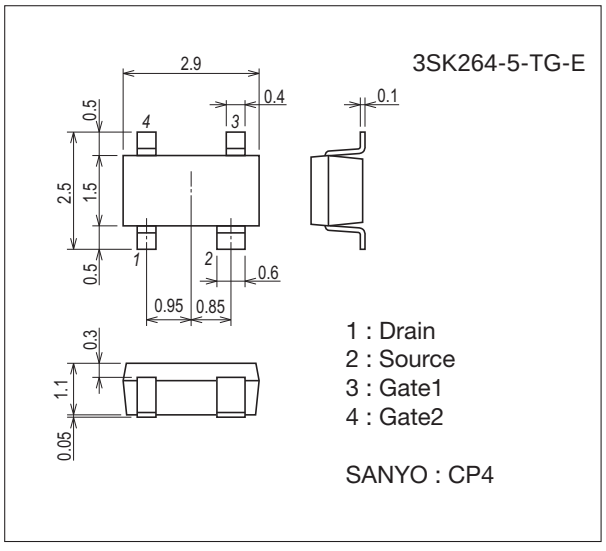
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		15	V
Gate1-to-Source Voltage	V_{G1S}		±8	V
Gate2-to-Source Voltage	V_{G2S}		±8	V
Drain Current	I_D		30	mA
Allowable Power Dissipation	P_D		200	mW
Channel Temperature	Tch		125	°C
Storage Temperature	Tstg		–55 to +125	°C

Package Dimensions

unit : mm (typ)

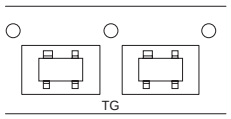
7014A-006



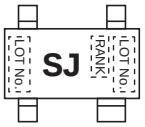
Product & Package Information

- Package : CP4
- JEITA, JEDEC : SC-61, SC-82AB, SOT-143, SOT-343
- Minimum Packing Quantity : 3,000 pcs./reel

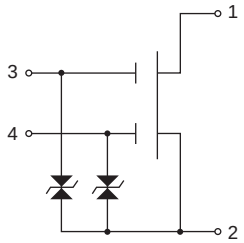
Packing Type: TG



Marking



Electrical Connection



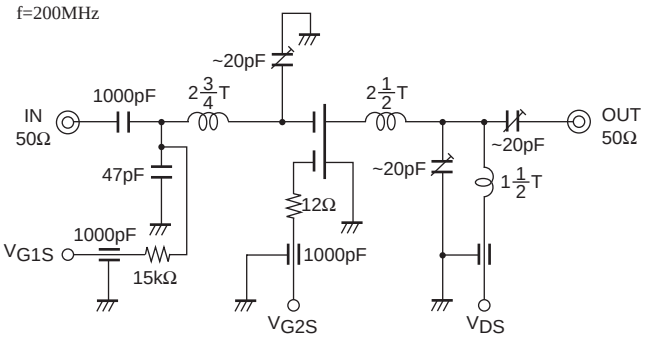
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Voltage	V_{DS}	V_{G1S}=0V, V_{G2S}=0V, I_{DS}=100μA	15			V
Gate1-to-Source Cutoff Voltage	V_{G1S}(off)	V_{DS}=6V, V_{G2S}=4V, I_D=100μA	0	0.7	1.3	V
Gate2-to-Source Cutoff Voltage	V_{G2S}(off)	V_{DS}=6V, V_{G1S}=3V, I_D=100μA	0.1	0.9	1.6	V
Gate1-to-Source Leakage Current	I_{G1SS}	V_{G1S}=±6V, V_{G2S}=V_{DS}=0V			±50	nA
Gate2-to-Source Leakage Current	I_{G2SS}	V_{G2S}=±6V, V_{G1S}=V_{DS}=0V			±50	nA
Zero-Gate Voltage Drain Current	I_{DSX}	V_{DS}=6V, V_{G1S}=1.5V, V_{G2S}=4V	5.0*		24.0*	mA
Forward Transfer Admittance	| yfs |	V_{DS}=6V, I_D=10mA, V_{G2S}=4V, f=1kHz		17		mS
Input Capacitance	Ciss	V_{DS}=6V, V_{G1S}=0V, V_{G2S}=4V, f=1MHz		2.5		pF
Reverse Transfer Capacitance	Crss			0.015	0.03	pF
Power Gain	PG	V_{DS}=6V, I_D=10mA, V_{G2S}=4V, f=200MHz	20	23		dB
Noise Figure	NF	V_{DS}=6V, I_D=10mA, V_{G2S}=4V, f=200MHz		1.1	2.2	dB

* : The 3SK264 is classified by I_{DSX} as follows : (unit : mA)

Rank	5	6
I_{DSX}	5.0 to 12.0	10.0 to 24.0

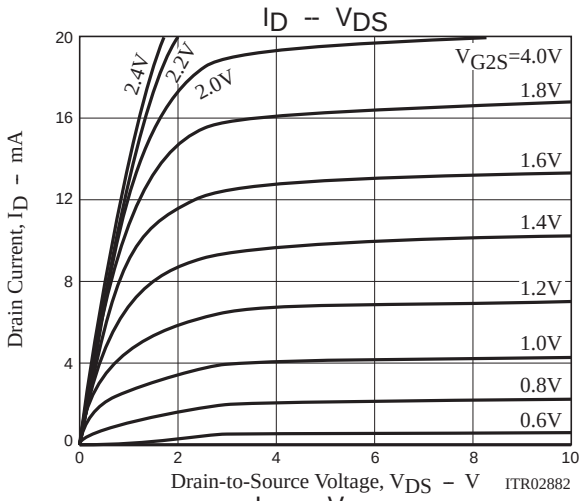
PG, NF Specified Test Circuit

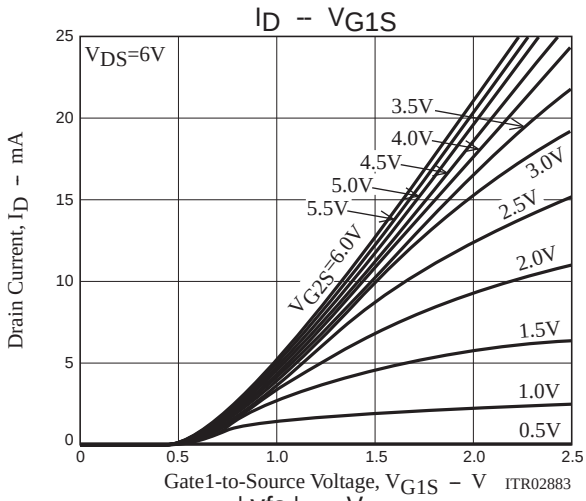


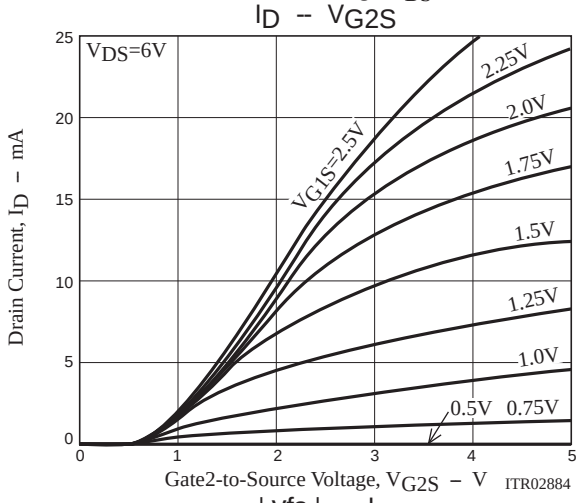
L : 1mmØ enamel wire 10mmØ

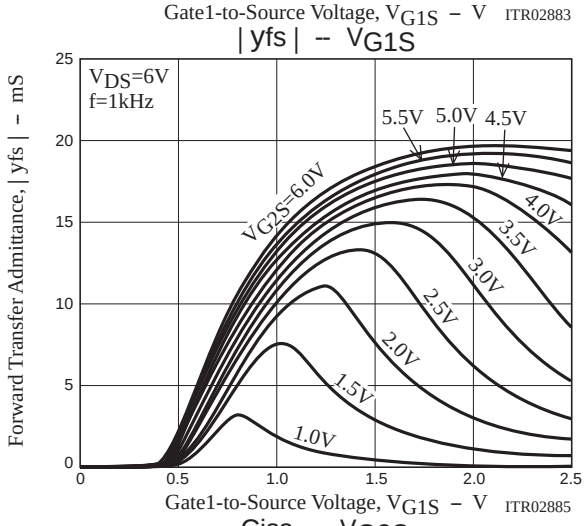
Ordering Information

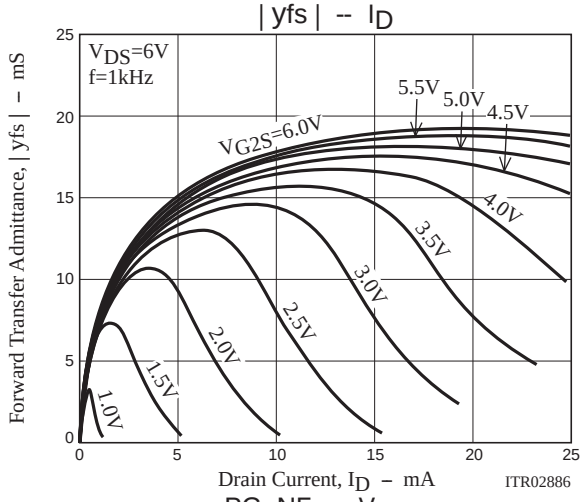
Device	Package	Shipping	memo
3SK264-5-TG-E	CP4	3,000pcs./reel	Pb Free

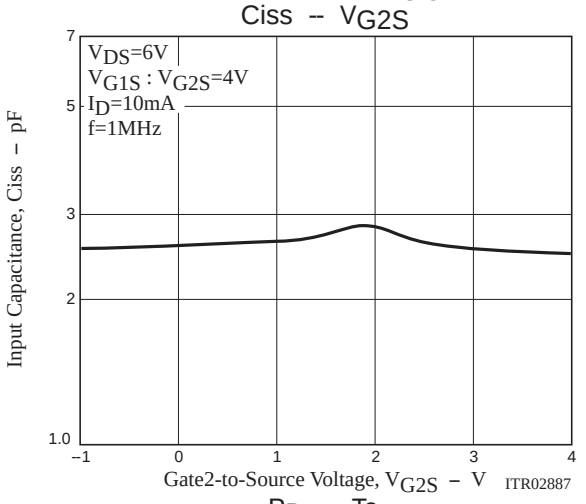

ID -- VDS
Drain Current, ID – mA
Drain-to-Source Voltage, VDS – V
ITR02882
VG2S=4.0V
1.8V
1.6V
1.4V
1.2V
1.0V
0.8V
0.6V
2.4V
2.2V
2.0V

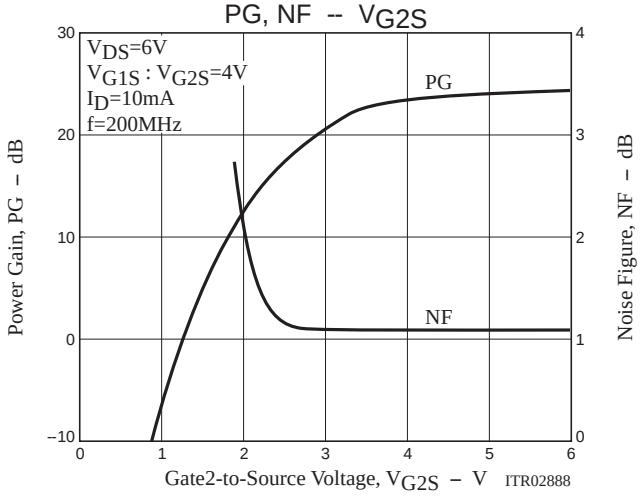

ID -- VG1S
Drain Current, ID – mA
Gate1-to-Source Voltage, VG1S – V
ITR02883
VDS=6V
3.5V
4.0V
4.5V
5.0V
5.5V
VG2S=6.0V
3.0V
2.5V
2.0V
1.5V
1.0V
0.5V

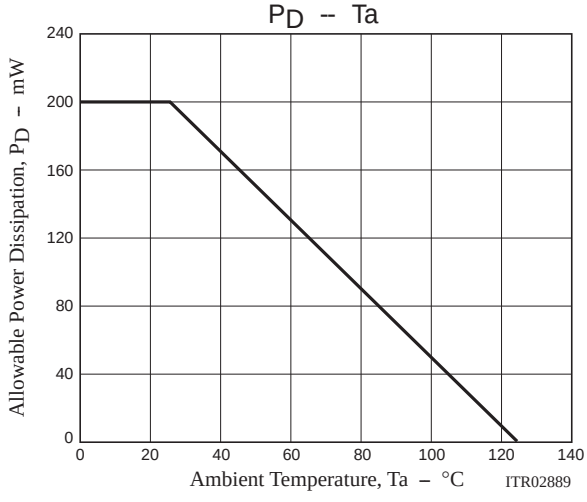

ID -- VG2S
Drain Current, ID – mA
Gate2-to-Source Voltage, VG2S – V
ITR02884
VDS=6V
2.25V
2.0V
VG1S=2.5V
1.75V
1.5V
1.25V
1.0V
0.5V
0.75V


| yfs | -- VG1S
Forward Transfer Admittance, | yfs | – mS
Gate1-to-Source Voltage, VG1S – V
ITR02885
VDS=6V
f=1kHz
5.5V
5.0V
4.5V
VG2S=6.0V
4.0V
3.5V
3.0V
2.5V
2.0V
1.5V
1.0V


| yfs | -- ID
Forward Transfer Admittance, | yfs | – mS
Drain Current, ID – mA
ITR02886
VDS=6V
f=1kHz
5.5V
5.0V
4.5V
VG2S=6.0V
4.0V
3.5V
3.0V
2.5V
2.0V
1.5V
1.0V


Ciss -- VG2S
Input Capacitance, Ciss – pF
Gate2-to-Source Voltage, VG2S – V
ITR02887
VDS=6V
VG1S : VG2S=4V
ID=10mA
f=1MHz


PG, NF -- VG2S
Power Gain, PG – dB
Noise Figure, NF – dB
Gate2-to-Source Voltage, VG2S – V
ITR02888
VDS=6V
VG1S : VG2S=4V
ID=10mA
f=200MHz
PG
NF


PD -- Ta
Allowable Power Dissipation, PD – mW
Ambient Temperature, Ta – °C
ITR02889

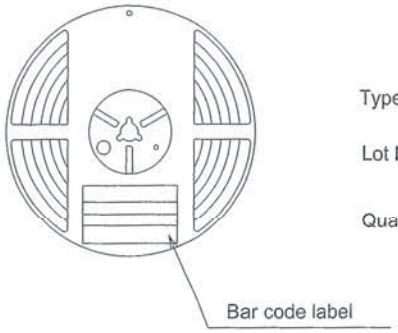
Embossed Taping Specification

3SK264-5-TG-E

Storage package Outline name	Carrier tape Type number	Maximum Number of devices contained (pcs.)			Packing format	
		Reel	Inner box	Outer box	Inner box BOX (C-1)	Outer box BOX (A-7)
CP4	CP4	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

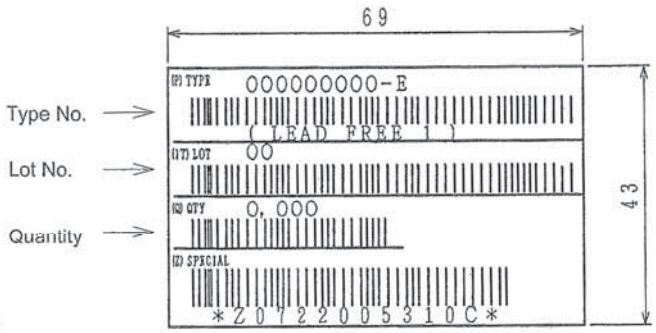
1. Packing format

Packing method



Bar code label (Example)

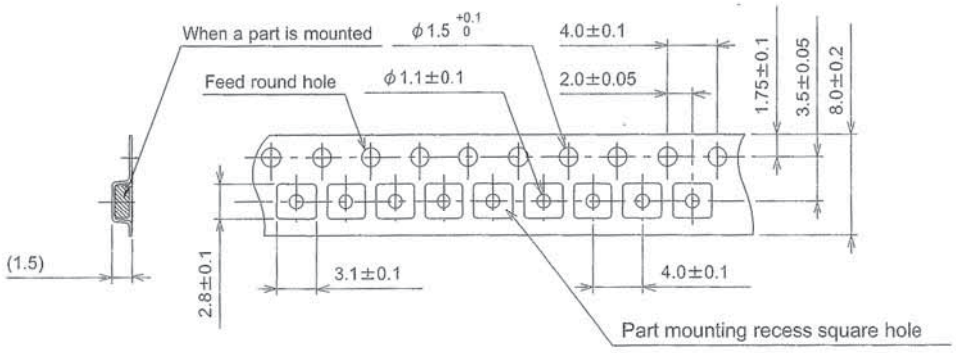
(Unit : mm)



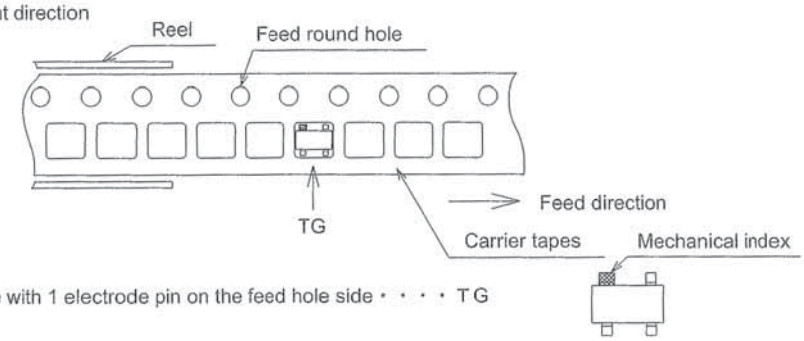
*LEAD FREE 1:
Lead-free External terminal surface treatment product.

2. Taping structure

2—1. Carrier tape size (Unit : mm)



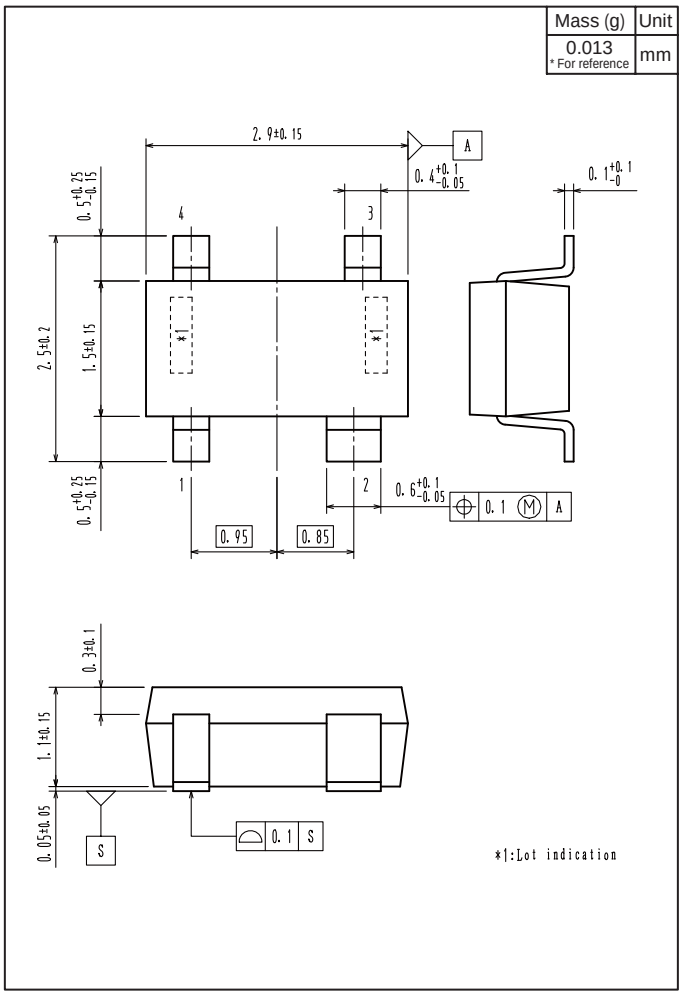
2—2. Parts placement direction



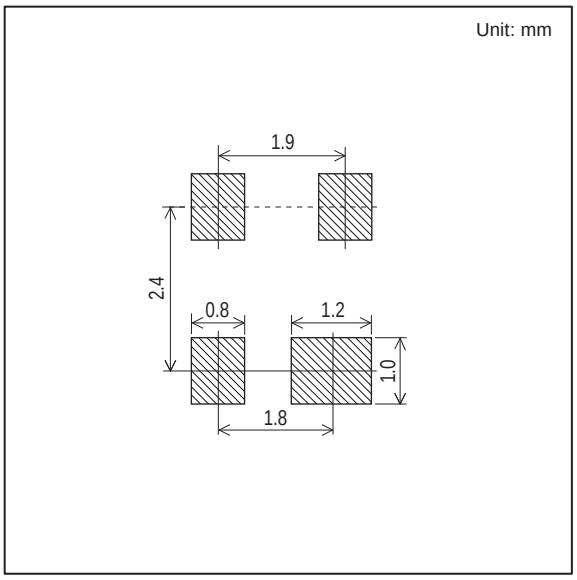
Those with 1 electrode pin on the feed hole side・・・・TG

Outline Drawing

3SK264-5-TG-E



Land Pattern Example



Note on usage : Since the 3SK264 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

This catalog provides information as of September, 2012. Specifications and information herein are subject to change without notice.