Ordering number : EN8158B

SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Junctin Silicon FET

2SK3666 — Low-Frequency General-Purpose Amplifier, Impedance Converter Applications

Applications

- Low-frequency general-purpose amplifier, impedance conversion, infrared sensor applications

Features

- Small IGSS
- Small Ciss

Specifications

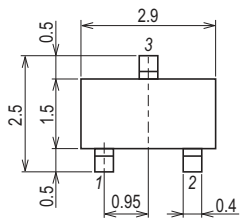
Absolute Maximum Ratings at Ta=25°C

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		200	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Package Dimensions

unit : mm (typ)

7013A-011



2SK3666-2-TB-E
2SK3666-3-TB-E
2SK3666-4-TB-E

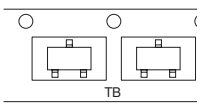
1 : Source
2 : Drain
3 : Gate

SANYO : CP

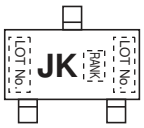
Product & Package Information

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

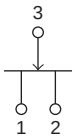
Packing Type: TL



Marking



Electrical Connection



Electrical Characteristics at Ta=25°C

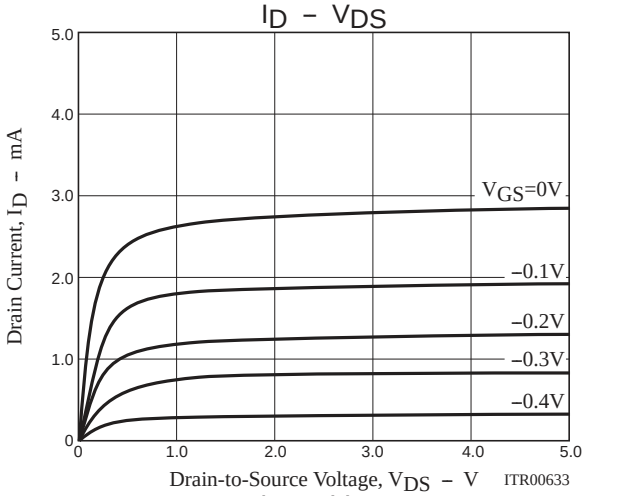
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G=−10μA, V_{DS}=0V	−30			V
Gate Cutoff Current	I_{GSS}	V_{GS}=−20V, V_{DS}=0V			−1.0	nA
Cutoff Voltage	V_{GS}(off)	V_{DS}=10V, I_D=1μA	−0.18	−0.95	−2.2	V
Drain Current	I_{DSS}	V_{DS}=10V, V_{GS}=0V	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

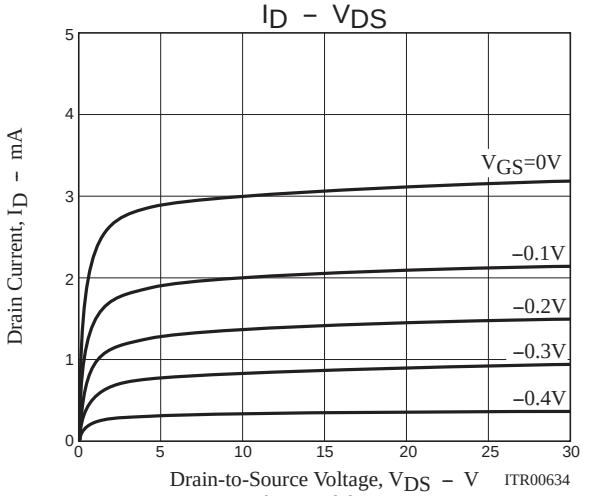
* : The 2SK3666 is classified by I_{DSS} as follows : (unit : mA)

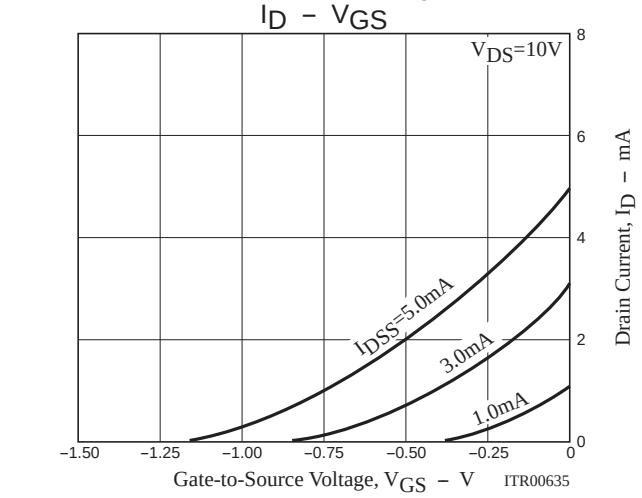
Rank	2	3	4
I_{DSS}	0.6 to 1.5	1.2 to 3.0	2.5 to 6.0

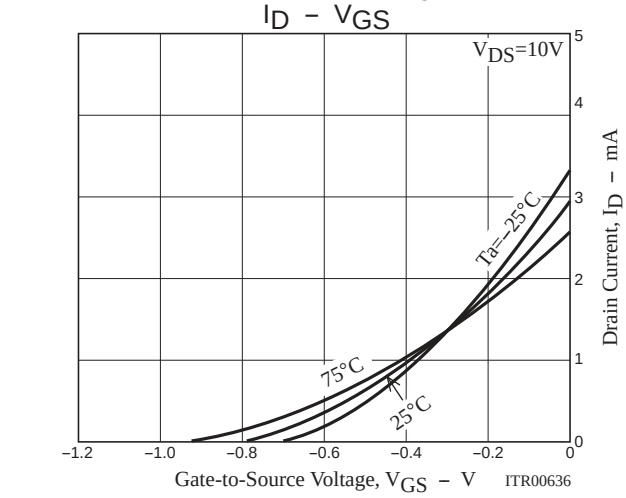
Ordering Information

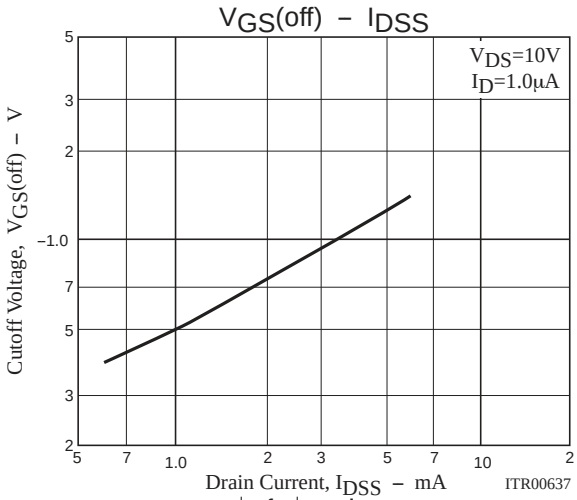
Device	Package	Shipping	memo
2SK3666-2-TB-E	CP	3,000pcs./reel	Pb Free
2SK3666-3-TB-E	CP	3,000pcs./reel	
2SK3666-4-TB-E	CP	3,000pcs./reel	

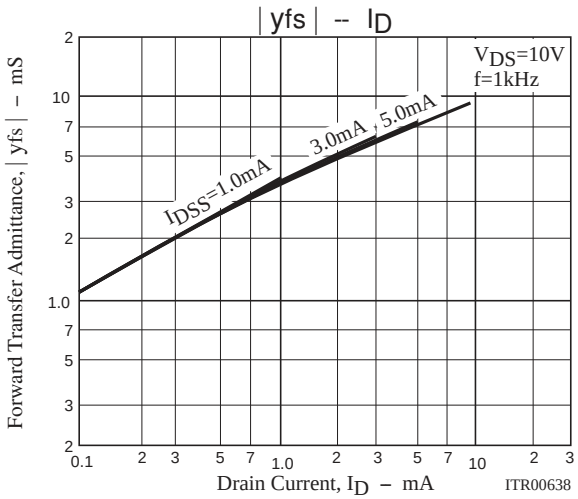


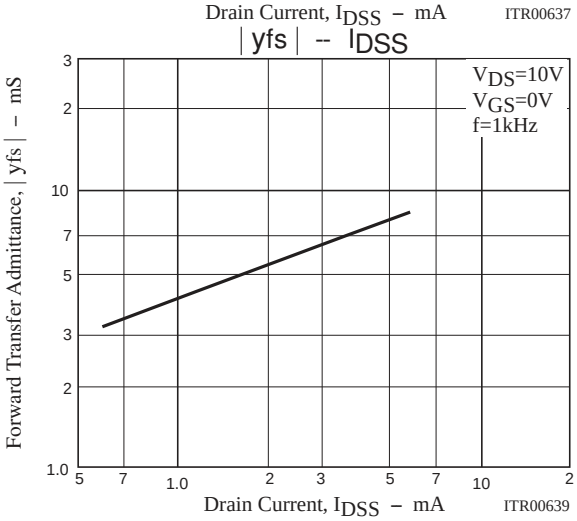


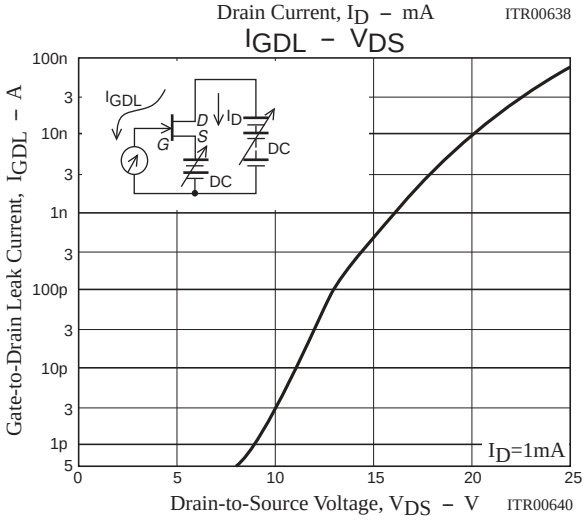


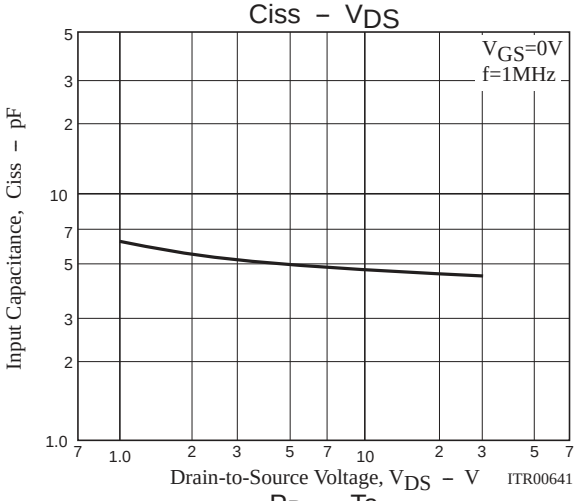


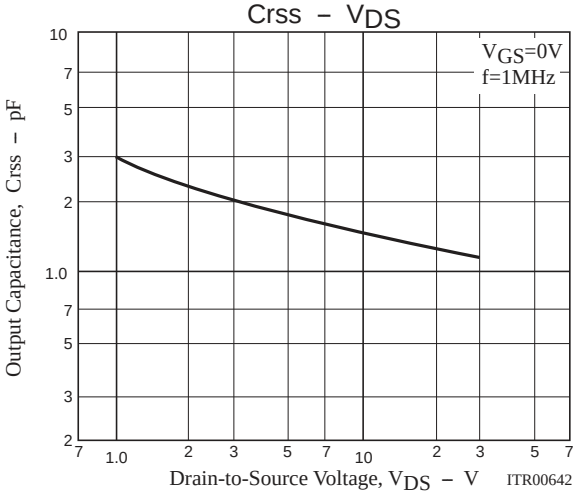

VGS(off) – IDSS
VDS=10V
ID=1.0μA
Cutoff Voltage, VGS(off) – V
Drain Current, IDSS – mA
ITR00637

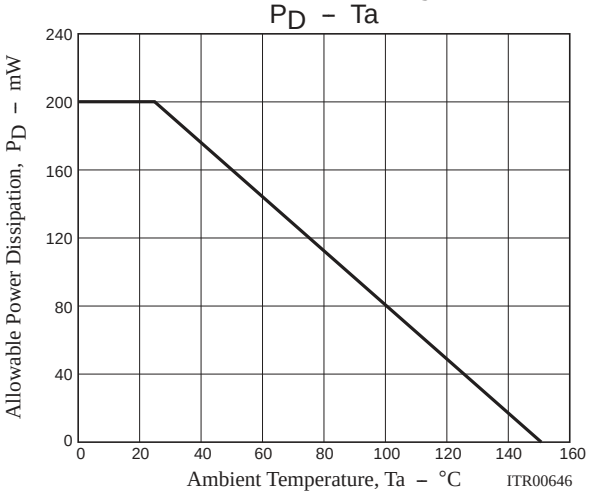

| yfs | -- ID
VDS=10V
f=1kHz
IDSS=1.0mA
3.0mA
5.0mA
Forward Transfer Admittance, | yfs | – mS
Drain Current, ID – mA
ITR00638


| yfs | -- IDSS
VDS=10V
VGS=0V
f=1kHz
Forward Transfer Admittance, | yfs | – mS
Drain Current, IDSS – mA
ITR00639


IGDL – VDS
IGDL
D
ID
G
S
DC
DC
ID=1mA
Gate-to-Drain Leak Current, IGDL – A
Drain-to-Source Voltage, VDS – V
ITR00640


Ciss – VDS
VGS=0V
f=1MHz
Input Capacitance, Ciss – pF
Drain-to-Source Voltage, VDS – V
ITR00641


Crss – VDS
VGS=0V
f=1MHz
Output Capacitance, Crss – pF
Drain-to-Source Voltage, VDS – V
ITR00642


PD – Ta
Allowable Power Dissipation, PD – mW
Ambient Temperature, Ta – °C
ITR00646

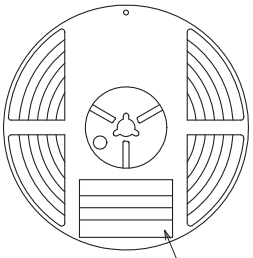
Embossed Taping Specification

2SK3666-2-TB-E, 2SK3666-3-TB-E, 2SK3666-4-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

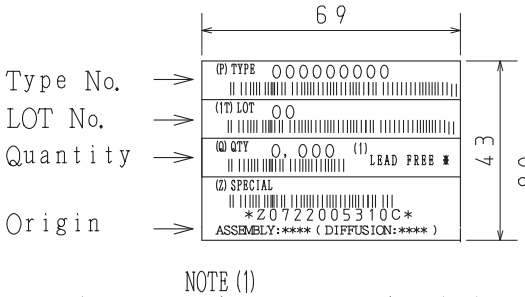
Packing method



Reel label

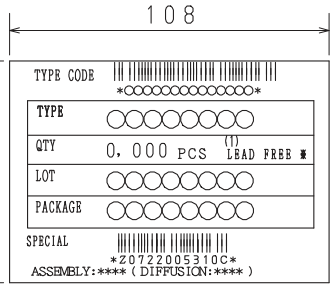
Reel label, Inner box label

(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.

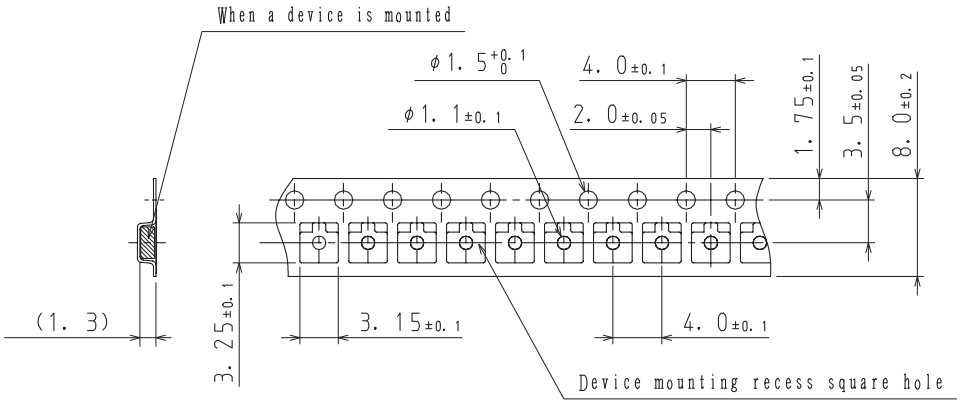


NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

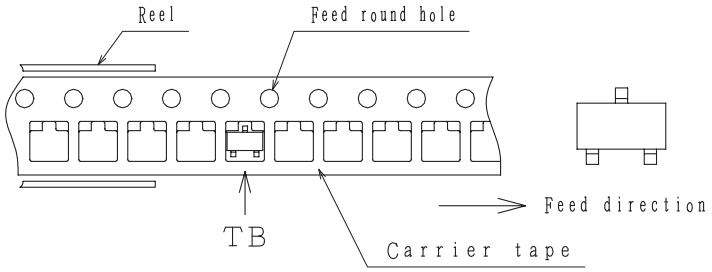
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



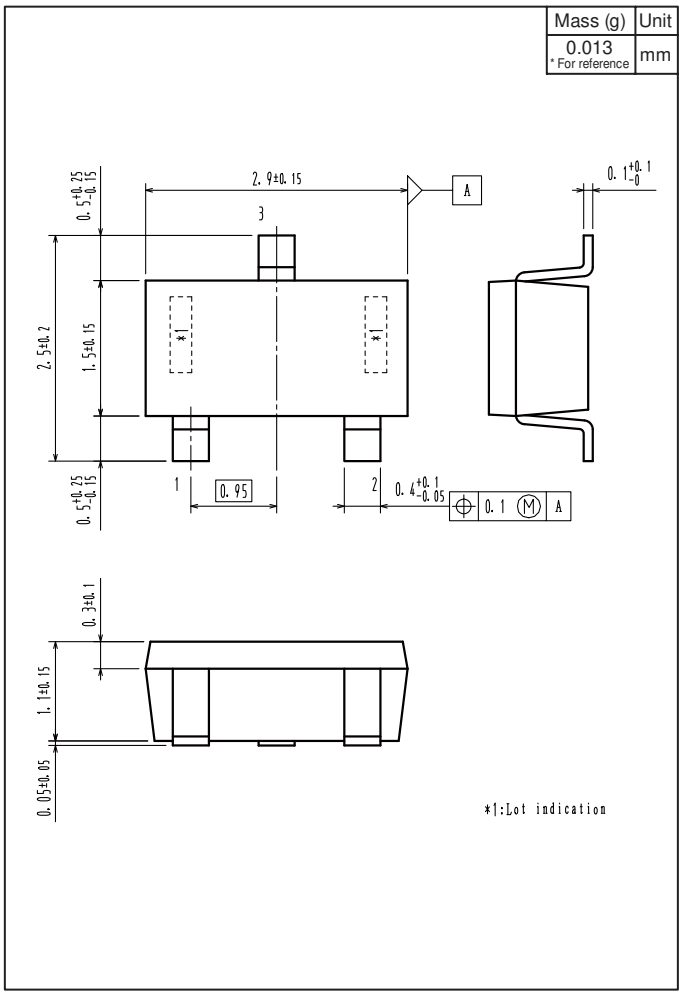
2-2. Device placement direction



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

Outline Drawing

2SK3666-2-TB-E, 2SK3666-3-TB-E, 2SK3666-4-TB-E



Land Pattern Example