

# JUNCTION FIELD EFFECT TRANSISTOR

# 2SK1108

## N-CHANNEL SILICON JUNCTION FIELD EFFECT TRANSISTOR FOR IMPEDANCE CONVERTER OF ECM

### DESCRIPTION

The 2SK1108 is suitable for converter of ECM.

### FEATURES

- Compact package
- High forward transfer admittance  
1000  $\mu\text{S}$  TYP. ( $I_{\text{DSS}} = 100 \mu\text{A}$ )  
1600  $\mu\text{S}$  TYP. ( $I_{\text{DSS}} = 200 \mu\text{A}$ )
- Includes diode and high resistance at G - S

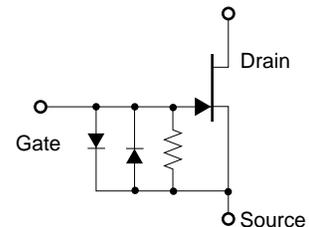
### ORDERING INFORMATION

PART NUMBER	PACKAGE
2SK1108	SST

### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ )

Drain to Source Voltage <sup>Note</sup>	$V_{\text{DSX}}$	20	V
Gate to Drain Voltage	$V_{\text{GDO}}$	-20	V
Drain Current	$I_{\text{D}}$	10	mA
Gate Current	$I_{\text{G}}$	10	mA
Total Power Dissipation	$P_{\text{T}}$	100	mW
Junction Temperature	$T_{\text{J}}$	125	$^\circ\text{C}$
Storage Temperature	$T_{\text{stg}}$	-55 to +125	$^\circ\text{C}$

### EQUIVALENT CIRCUIT



**Note**  $V_{\text{GS}} = -1.0 \text{ V}$

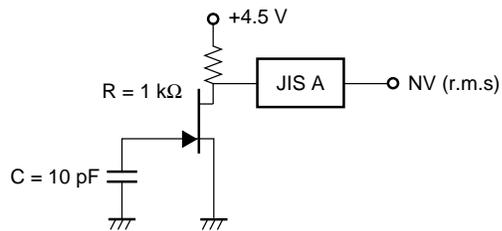
**Remark** Please take care of ESD (Electro Static Discharge) when you handle the device in this document.

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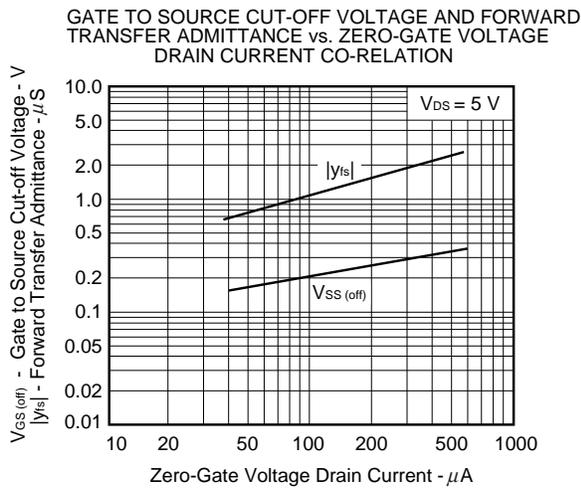
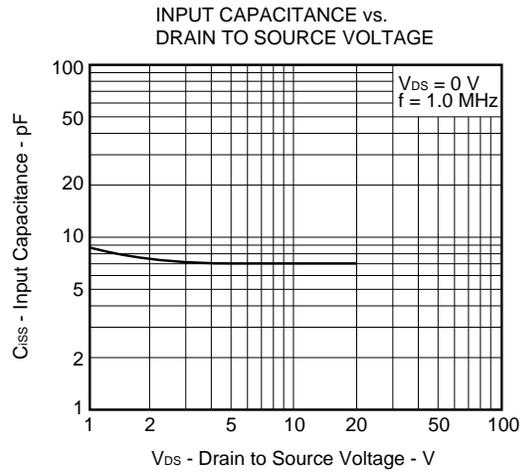
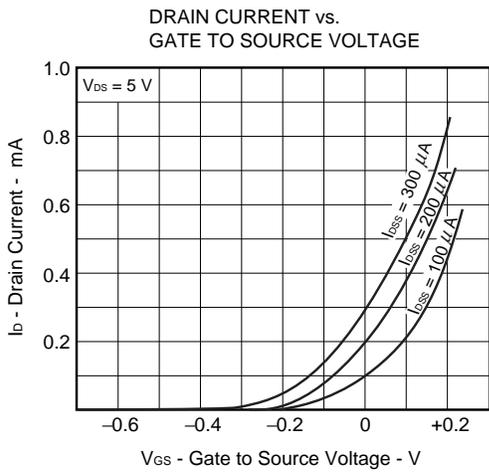
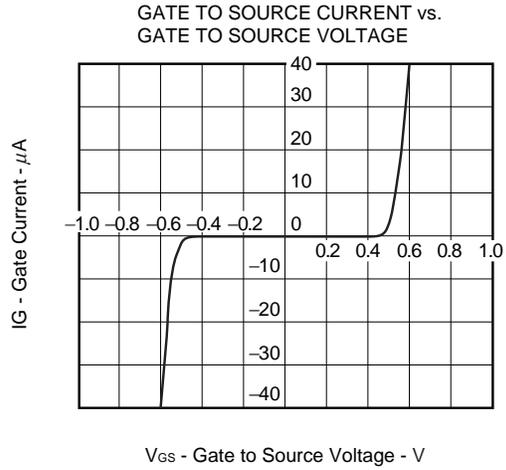
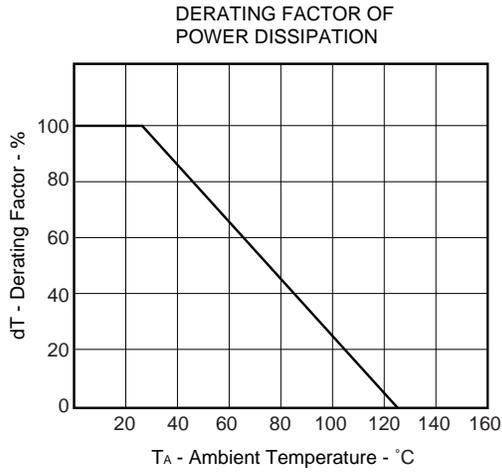
**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)**

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Zero Gate Voltage Drain Cut-off Current	I <sub>DSS</sub>	V <sub>DS</sub> = 5.0 V, V <sub>GS</sub> = 0 V	40		600	μA
Gate Cut-off Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> = 5.0 V, I <sub>D</sub> = 1.0 μA	-0.1		-1.0	V
Forward Transfer Admittance	y <sub>fs1</sub>	V <sub>DS</sub> = 5.0 V, I <sub>D</sub> = 20 μA, f = 1.0 kHz	350			μS
Forward Transfer Admittance	y <sub>fs2</sub>	V <sub>DS</sub> = 5.0 V, V <sub>GS</sub> = 0 V, f = 1.0 kHz	350			μS
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 5.0 V, V <sub>GS</sub> = 0 V, f = 1.0 kHz		7.0	8.0	pF
Noise Voltage	NV	See Test Circuit		1.8	3.0	μV

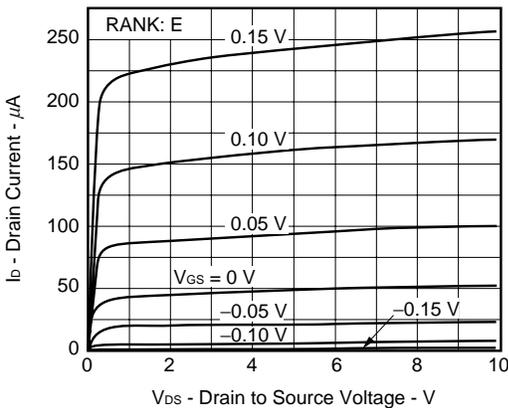
**NOISE VOLTAGE TEST CIRCUIT**



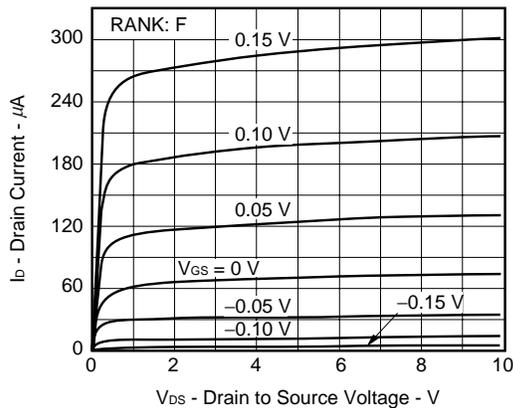
TYPICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)



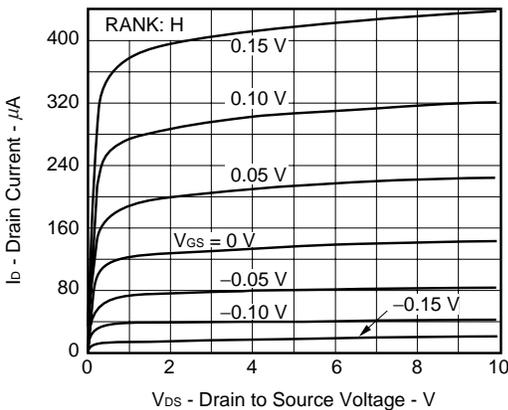
DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



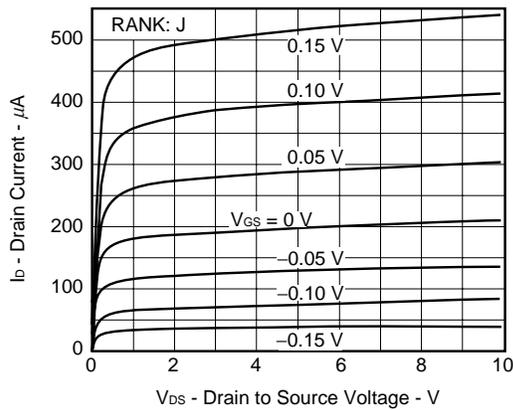
DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



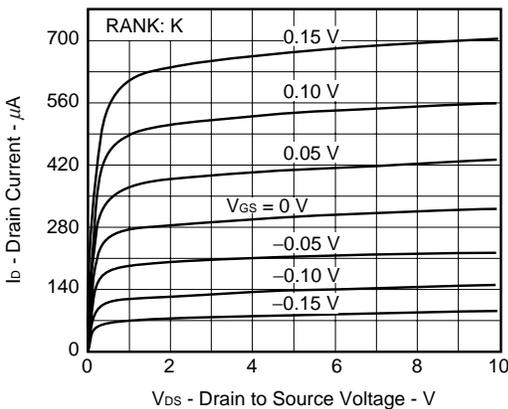
DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



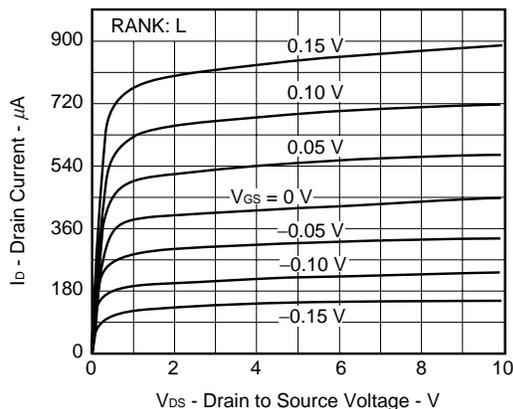
DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



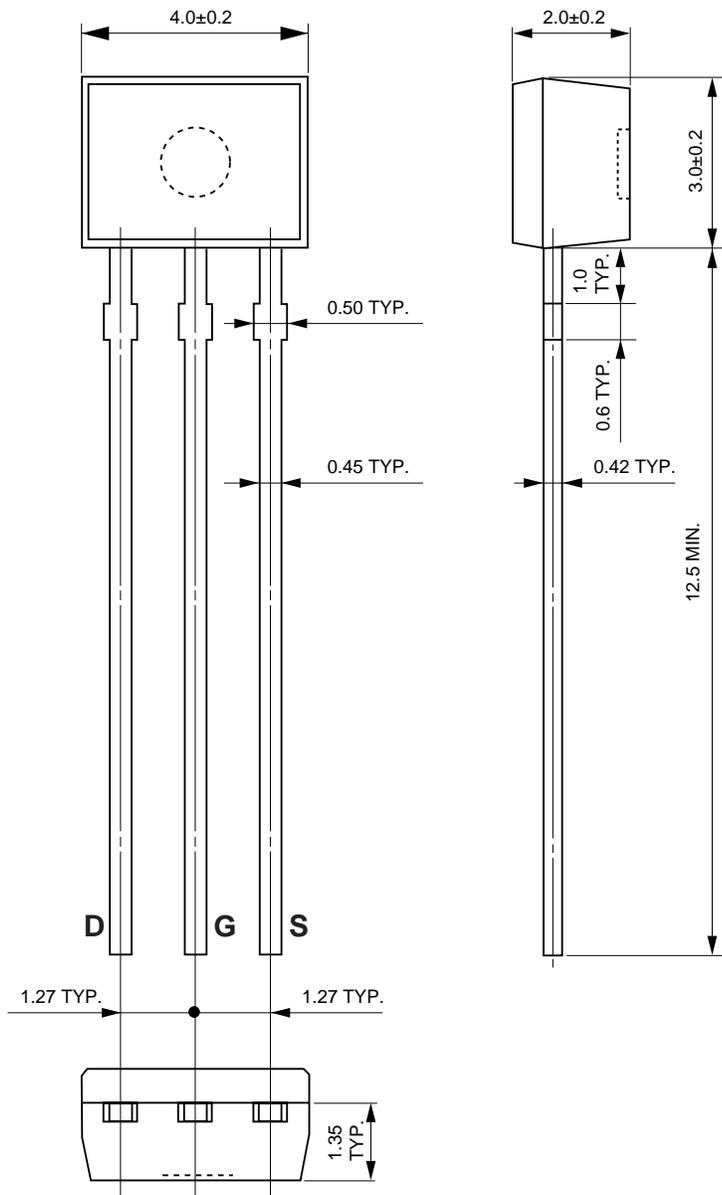
DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



PACKAGE DRAWING (Unit: mm)



[MEMO]

[MEMO]

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