

To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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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 μS TYP. ($I_{\text{DSS}} = 100 \mu\text{A}$)
1600 μS TYP. ($I_{\text{DSS}} = 200 \mu\text{A}$)
- Includes diode and high resistance at G - S

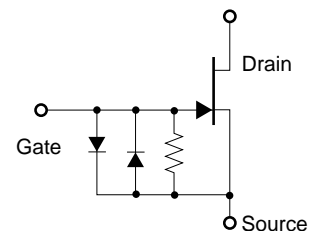
ORDERING INFORMATION

PART NUMBER	PACKAGE
2SK1108	SST

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

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

EQUIVALENT CIRCUIT



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

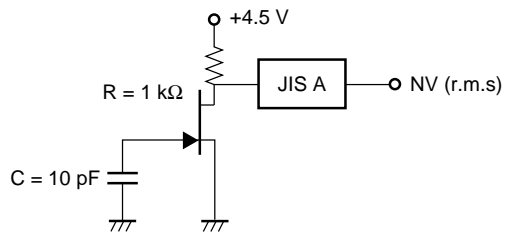
Remark Please take care of ESD (Electro Static Discharge) when you handle the device in this document.

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ELECTRICAL CHARACTERISTICS (T_A = 25°C)

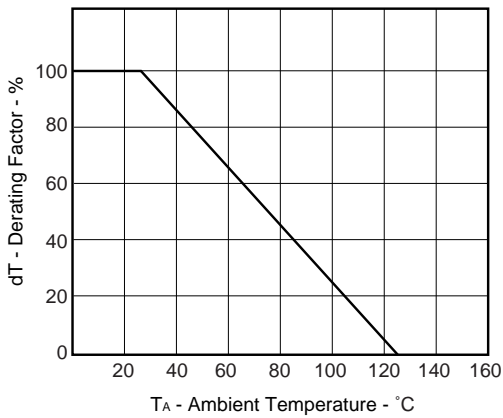
CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Zero Gate Voltage Drain Cut-off Current	I _{DSS}	V _{DS} = 5.0 V, V _{GS} = 0 V	40		600	μA
Gate Cut-off Voltage	V _{GS(off)}	V _{DS} = 5.0 V, I _D = 1.0 μA	-0.1		-1.0	V
Forward Transfer Admittance	y _{fs1}	V _{DS} = 5.0 V, I _D = 20 μA, f = 1.0 kHz	350			μS
Forward Transfer Admittance	y _{fs2}	V _{DS} = 5.0 V, V _{GS} = 0 V, f = 1.0 kHz	350			μS
Input Capacitance	C _{iss}	V _{DS} = 5.0 V, V _{GS} = 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

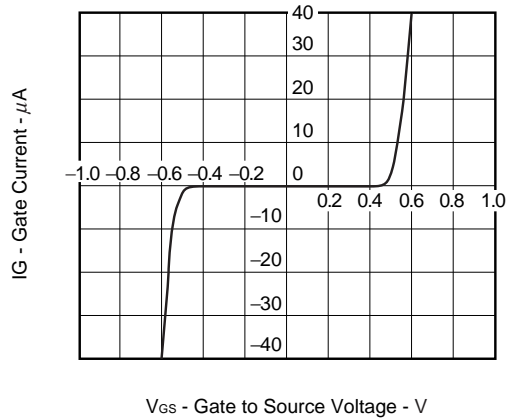


TYPICAL CHARACTERISTICS (T_A = 25°C)

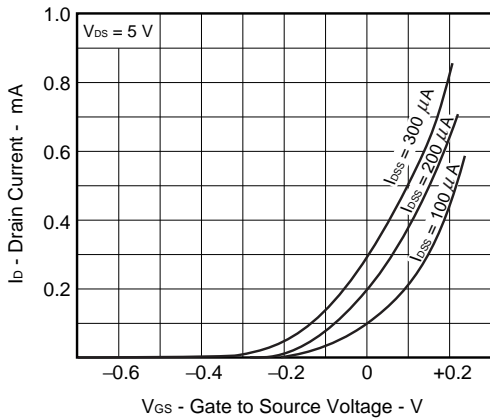
DERATING FACTOR OF POWER DISSIPATION



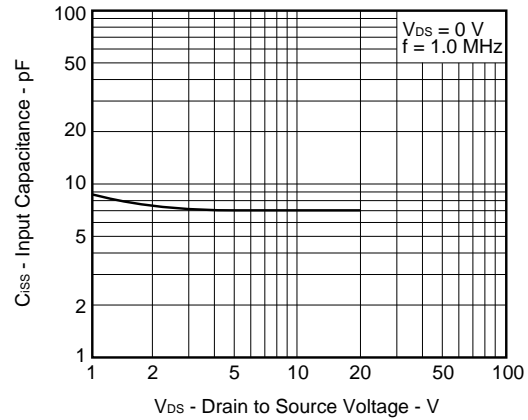
GATE TO SOURCE CURRENT vs. GATE TO SOURCE VOLTAGE



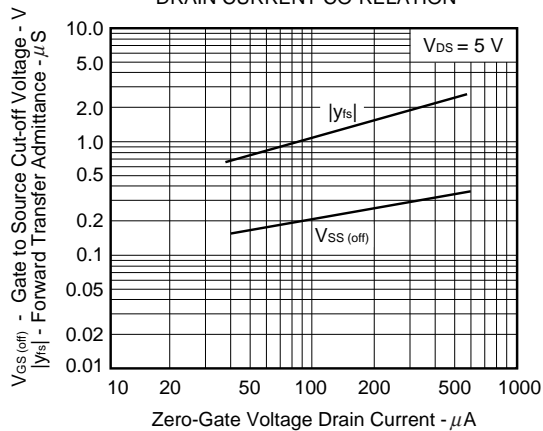
DRAIN CURRENT vs. GATE TO SOURCE VOLTAGE



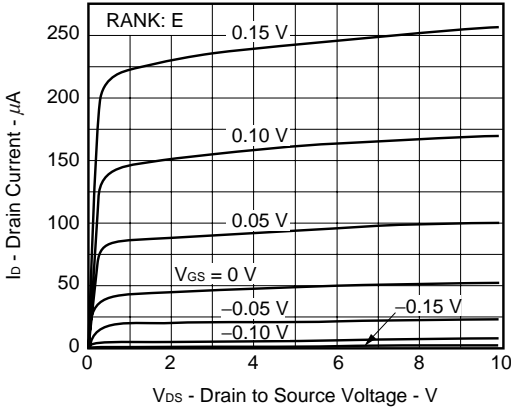
INPUT CAPACITANCE vs. DRAIN TO SOURCE VOLTAGE



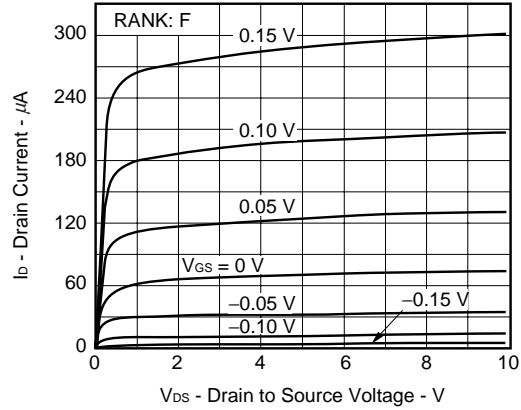
GATE TO SOURCE CUT-OFF VOLTAGE AND FORWARD TRANSFER ADMITTANCE vs. ZERO-GATE VOLTAGE DRAIN CURRENT CO-RELATION



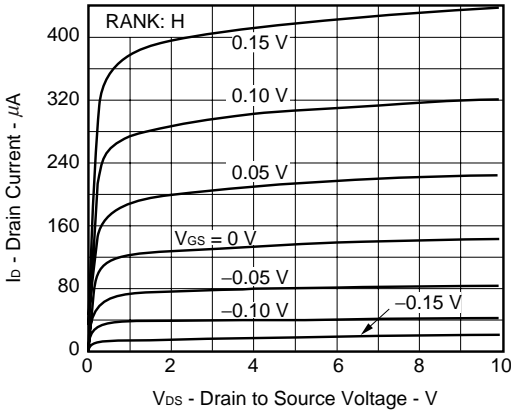
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



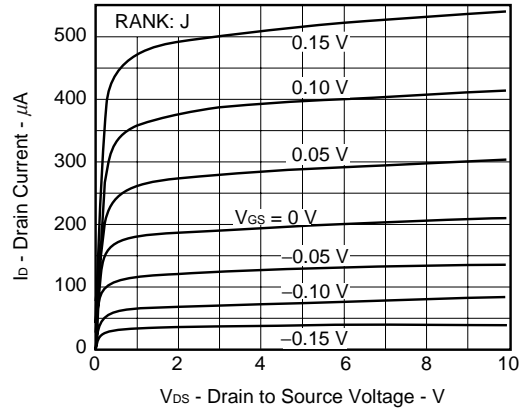
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



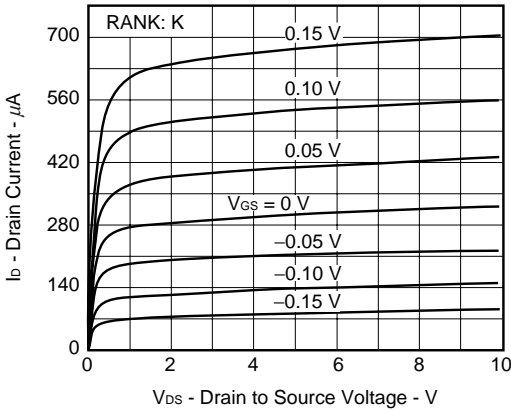
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



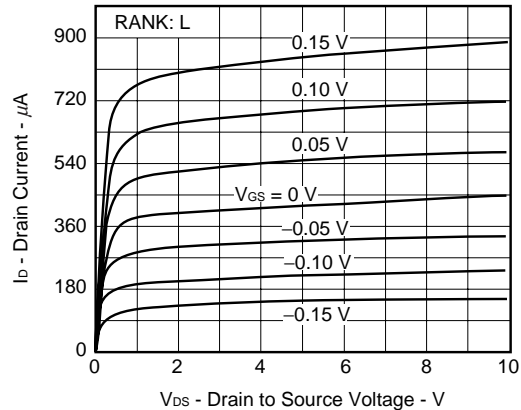
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



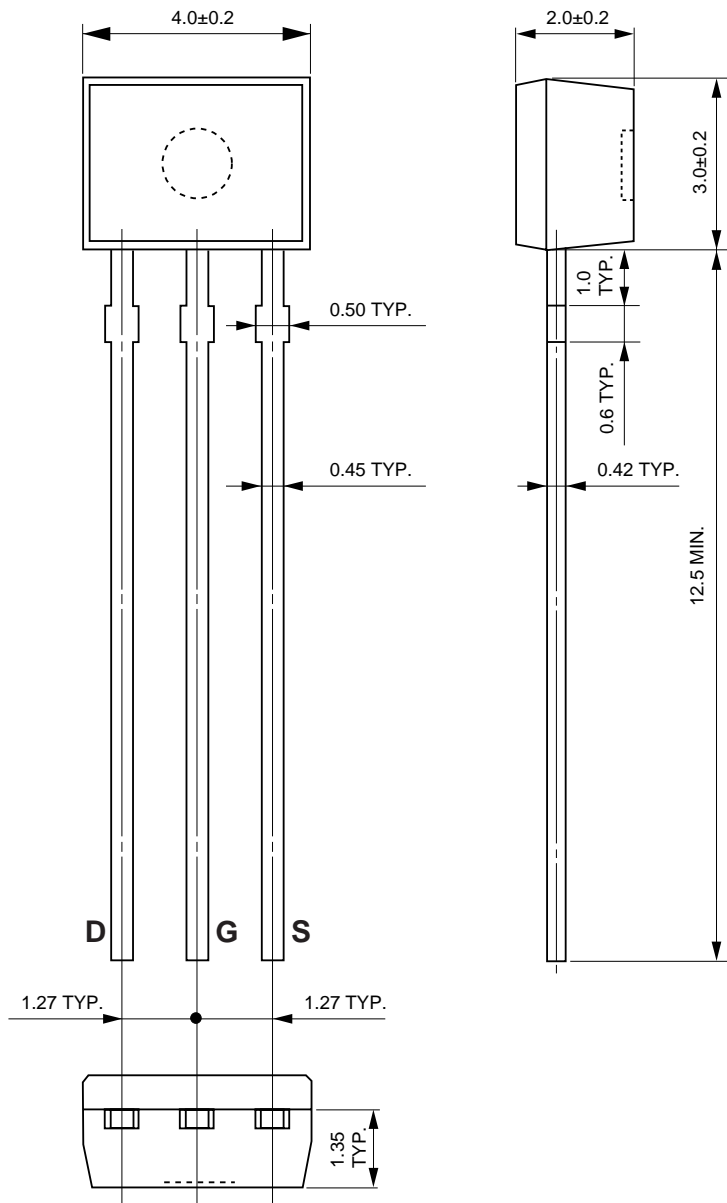
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



PACKAGE DRAWING (Unit: mm)



[MEMO]

[MEMO]

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