

JUNCTION FIELD EFFECT TRANSISTOR

2SK1109

N-CHANNEL SILICON JUNCTION FIELD EFFECT TRANSISTOR

FOR IMPEDANCE CONVERTER OF ECM

DESCRIPTION

The 2SK1109 is suitable for converter of ECM.

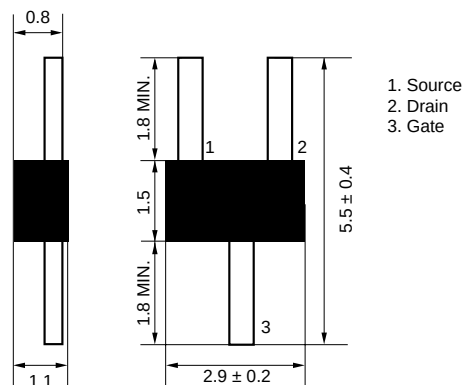
FEATURES

- 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
2SK1109	SC-59 (MM)

PACKAGE DRAWING (Unit: mm)

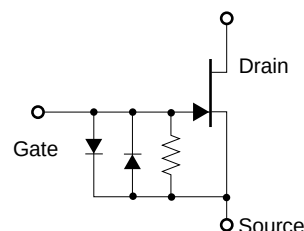


ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

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}	80	mW
Junction Temperature	T_{J}	125	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

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

EQUIVALENT CIRCUIT



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

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Not all devices/types available in every country. Please check with local NEC representative for availability and additional information.

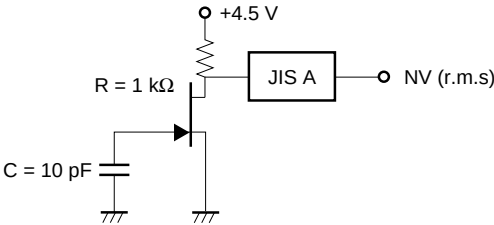
ELECTRICAL CHARACTERISTICS (T_A = 25°C)

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 = 30 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 MHz		7.0	8.0	pF
Noise Voltage	NV	See Test Circuit		1.8	3.0	μV

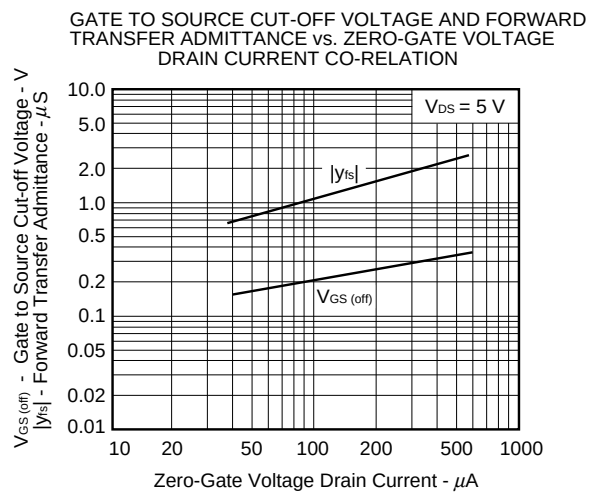
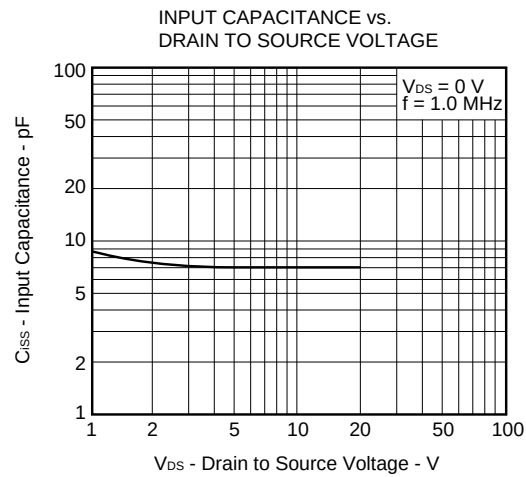
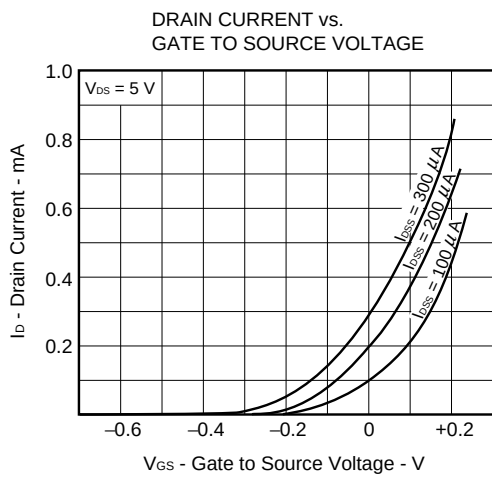
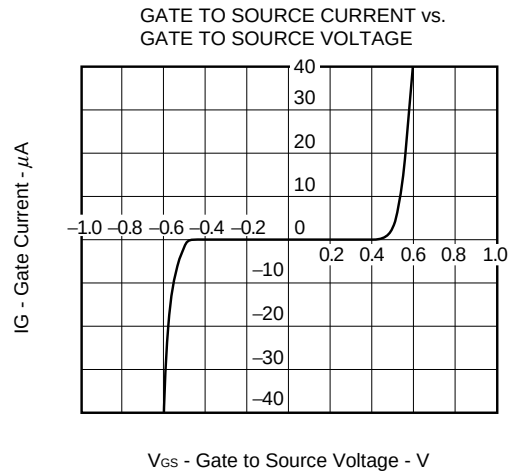
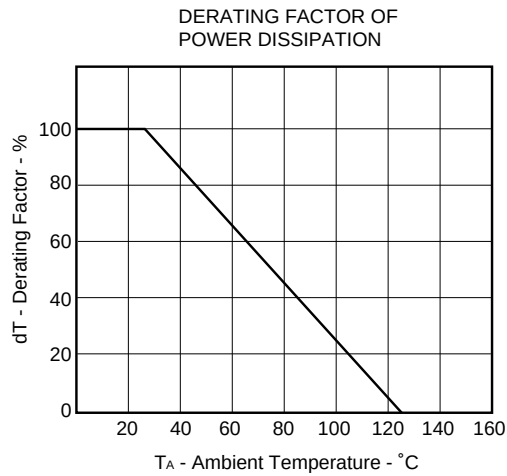
I_{DSS} RANK

MARKING	J32	J33	J34	J35	J36	J37
I _{DSS} (μA)	40 to 70	60 to 110	90 to 180	150 to 300	200 to 450	300 to 600

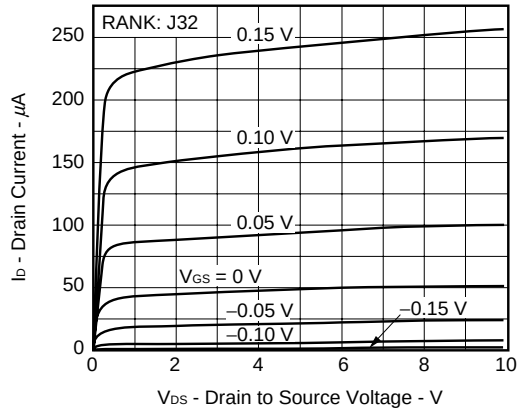
NOISE VOLTAGE TEST CIRCUIT



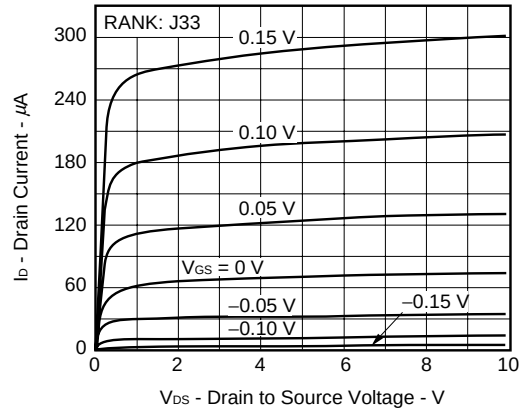
TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)



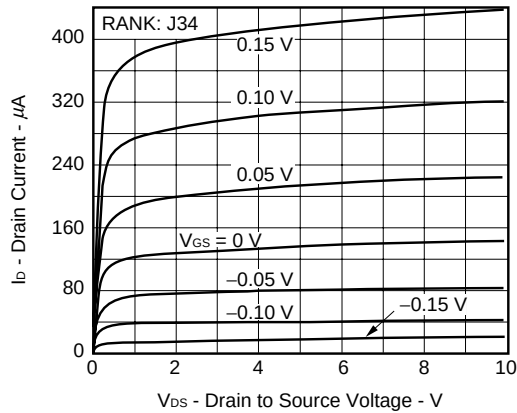
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



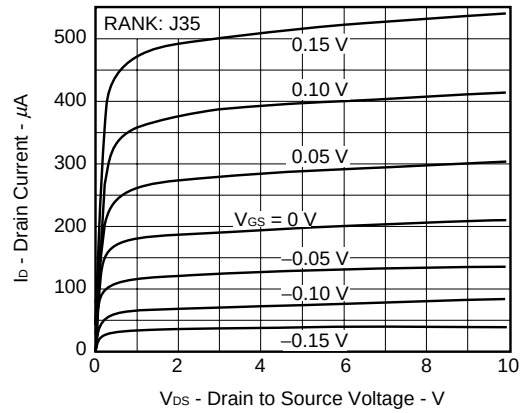
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



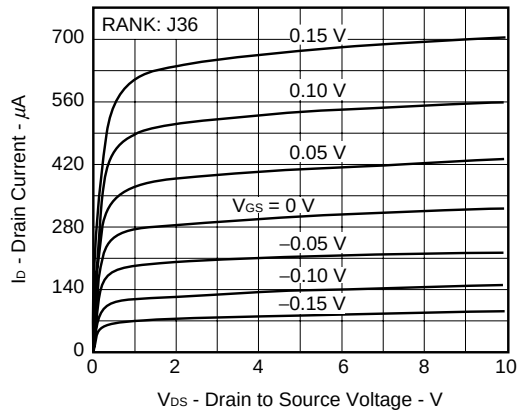
DRAIN CURRENT vs.
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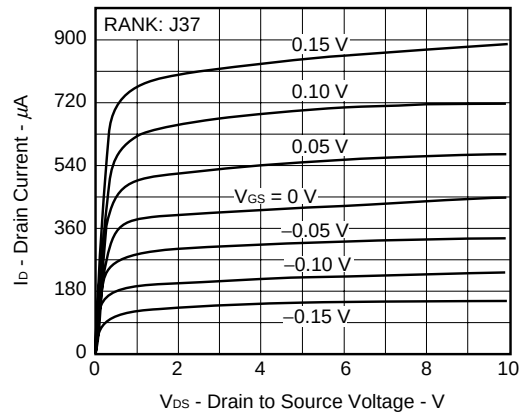
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



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