DATA SHEET

JUNCTION FIELD EFFECT TRANSISTOR
2SK2552

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

DESCRIPTION

The 2SK2552 is suitable for converter of ECM.

FEATURES

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

ORDERING INFORMATION

PART NUMBER	PACKAGE
2SK2552	SC-75 (USM)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)

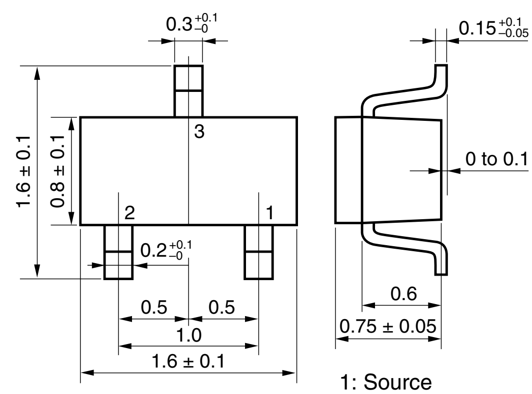
Drain to Source Voltage Note1	V_{DSX}	20	V
Gate to Drain Voltage	V_{GDO}	–20	V
Drain Current	I_D	10	mA
Gate Current	I_G	10	mA
Total Power Dissipation Note2	P_T	200	mW
Junction Temperature	T_j	125	°C
Storage Temperature	T_{stg}	–55 to +125	°C

Notes 1. V_{GS} = –1.0 V

2. Mounted on ceramic substrate of 3.0 cm^2 x 0.64 mm

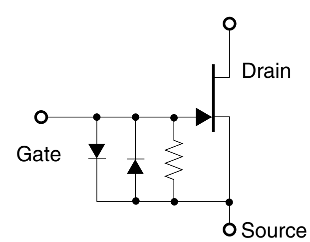
Remark Please take care of ESD (Electro Static Discharge) when you handle the device in this document.

★ PACKAGE DRAWING (Unit: mm)



1: Source
2: Drain
3: Gate

EQUIVALENT CIRCUIT



Document No. D15941EJ2V0DS00 (2nd edition)
Date Published November 2004 NS CP(K)
Printed in Japan

The mark ★ shows major revised points.

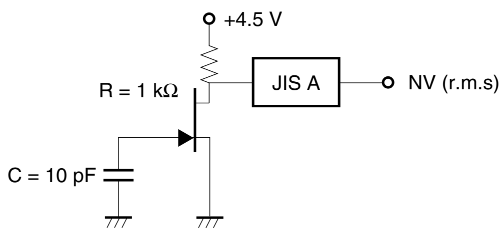
ELECTRICAL CHARACTERISTICS (T_A = 25°C)

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

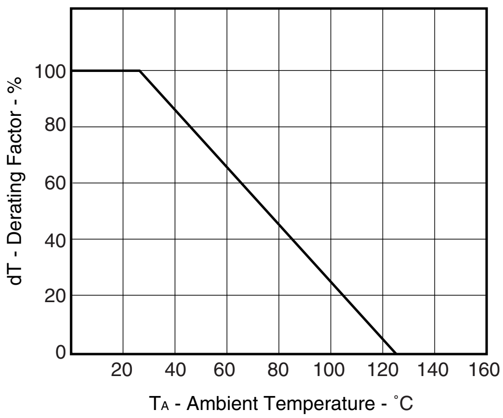
MARKING	J2	J3	J4	J5	J6	J7
I_{DSS} (μA)	40 to 70	60 to 110	90 to 180	150 to 300	200 to 450	300 to 600

NOISE VOLTAGE TEST CIRCUIT

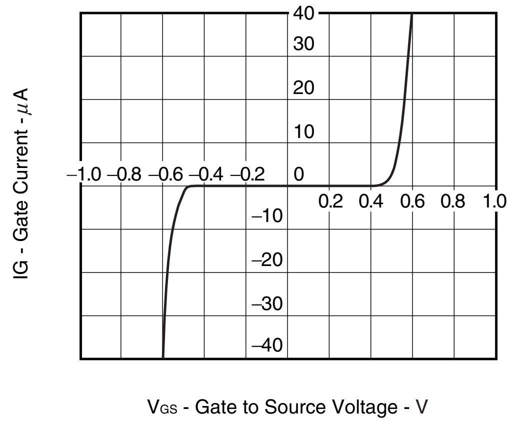


TYPICAL CHARACTERISTICS (T_A = 25°C)

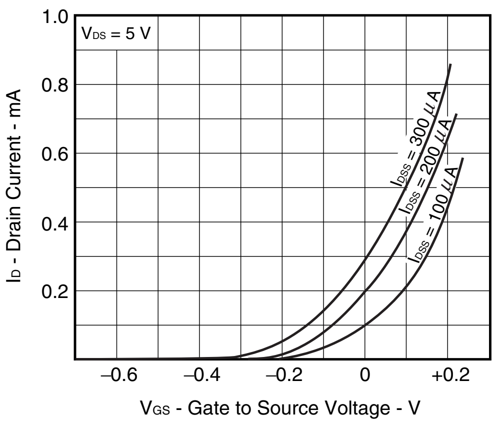
DERATING FACTOR OF
POWER DISSIPATION



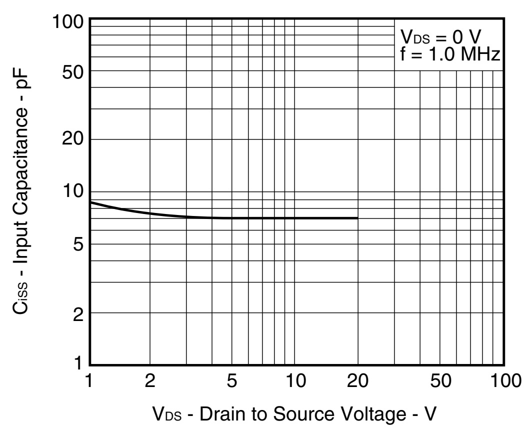
GATE TO SOURCE CURRENT vs.
GATE TO SOURCE VOLTAGE



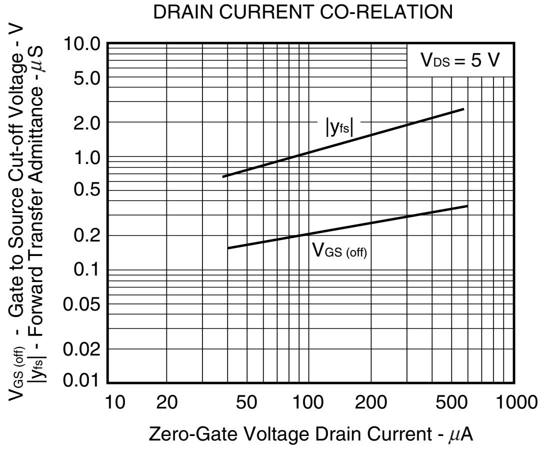
DRAIN CURRENT vs.
GATE TO SOURCE VOLTAGE



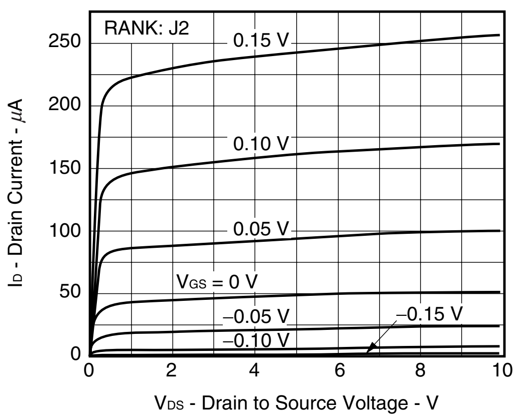
INPUT CAPACITANCE vs.
DRAIN TO SOURCE VOLTAGE



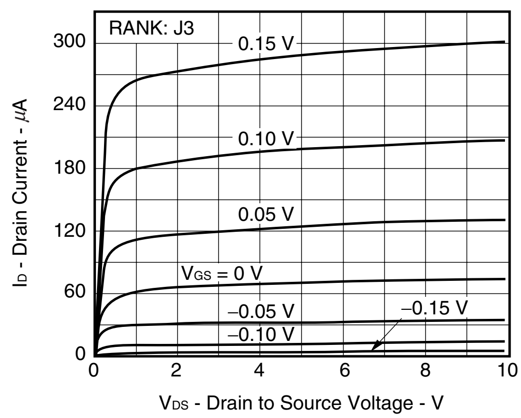
GATE TO SOURCE CUT-OFF VOLTAGE AND FORWARD
TRANSFER ADMITTANCE vs. ZERO-GATE VOLTAGE
DRAIN CURRENT CO-RELATION



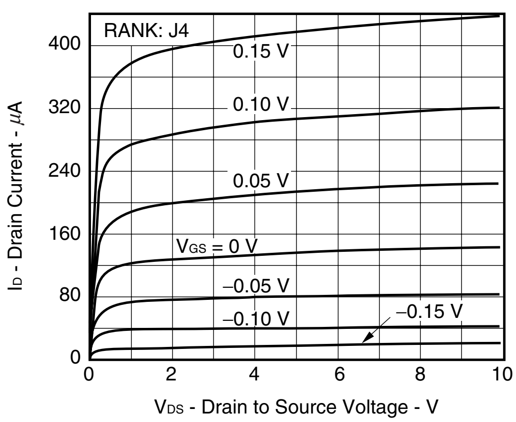
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



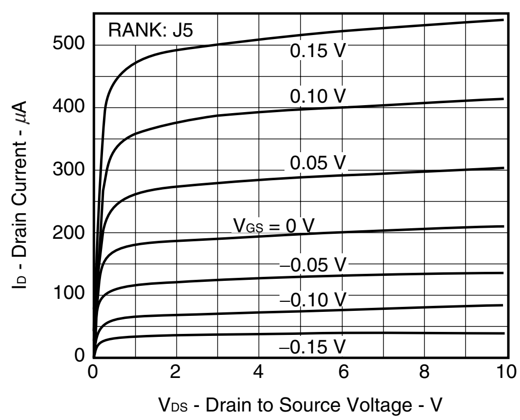
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



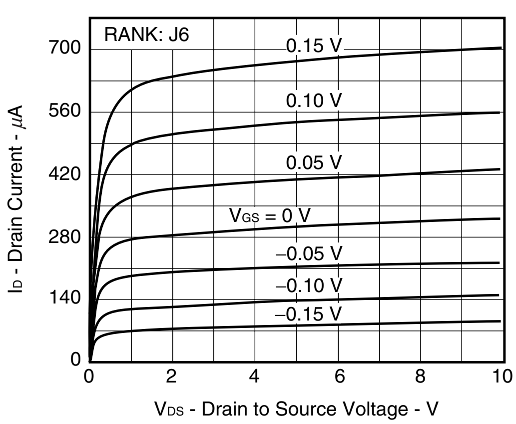
DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE



DRAIN CURRENT vs.
DRAIN TO SOURCE VOLTAGE