

# 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.

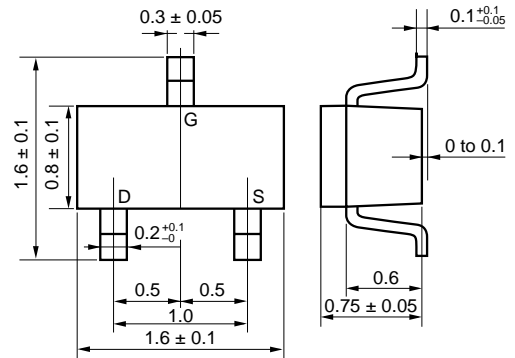
### FEATURES

- Compact package
- High forward transfer admittance  
1000  $\mu\text{S}$  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
2SK2552	SC-75 (USM)

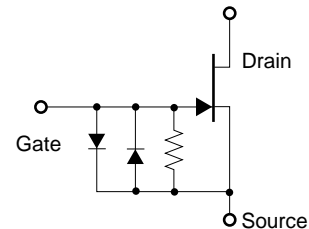
### PACKAGE DRAWING (Unit: mm)



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

Drain to Source Voltage <sup>Note1</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 <sup>Note2</sup>	$P_{\text{T}}$	200	mW
Junction Temperature	$T_{\text{J}}$	125	$^\circ\text{C}$
Storage Temperature	$T_{\text{stg}}$	-55 to +125	$^\circ\text{C}$

### EQUIVALENT CIRCUIT



**Notes 1.**  $V_{\text{GS}} = -1.0 \text{ V}$

**2.** Mounted on ceramic substrate of  $3.0 \text{ cm}^2 \times 0.64 \text{ mm}$

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

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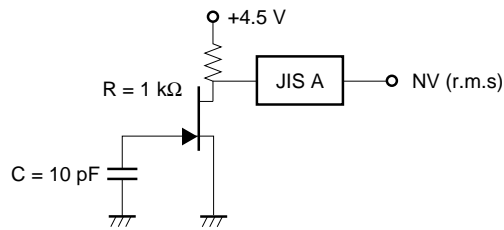
**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)**

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

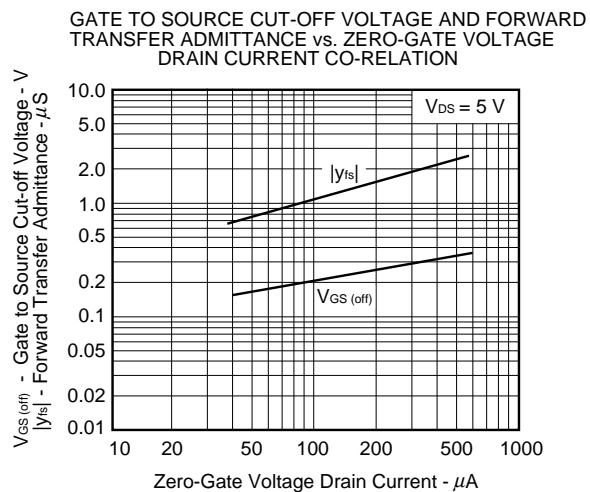
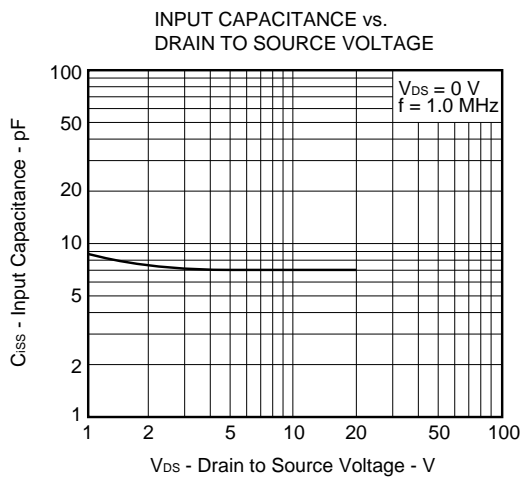
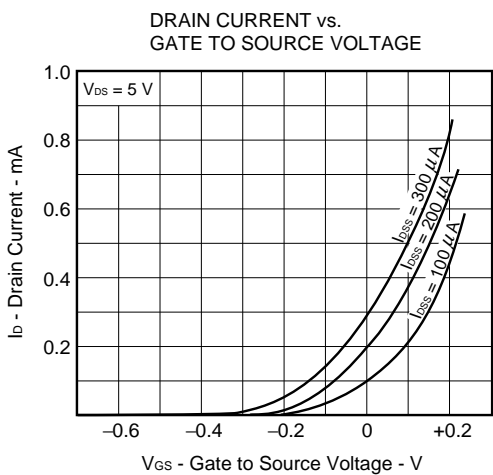
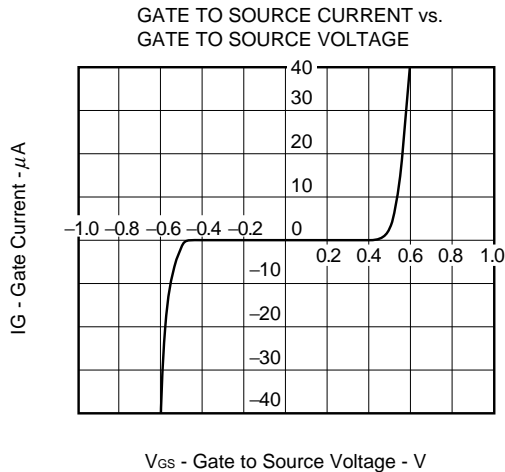
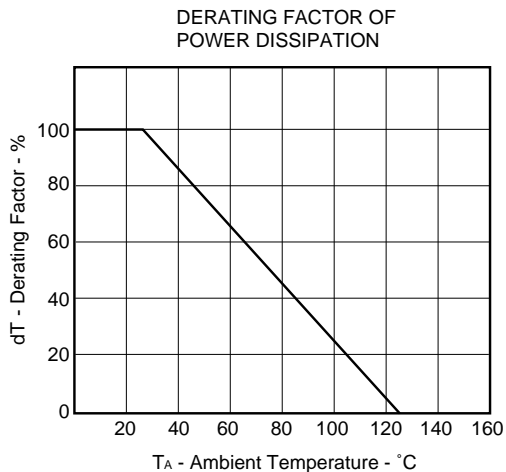
**I<sub>DSS</sub> RANK**

MARKING	J2	J3	J4	J5	J6	J7
I <sub>DSS</sub> (μA)	40 to 70	60 to 110	90 to 180	150 to 300	200 to 450	300 to 600

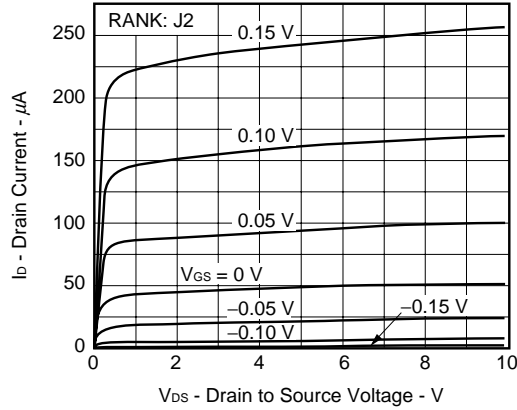
**NOISE VOLTAGE TEST CIRCUIT**



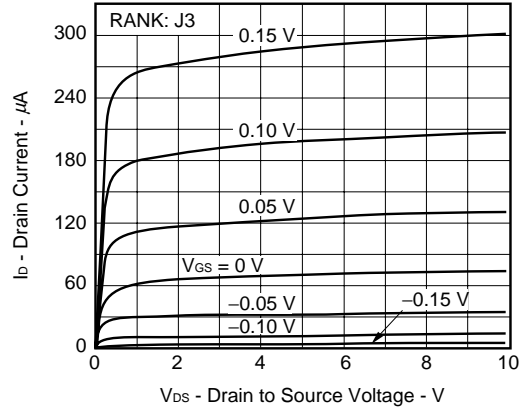
TYPICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)



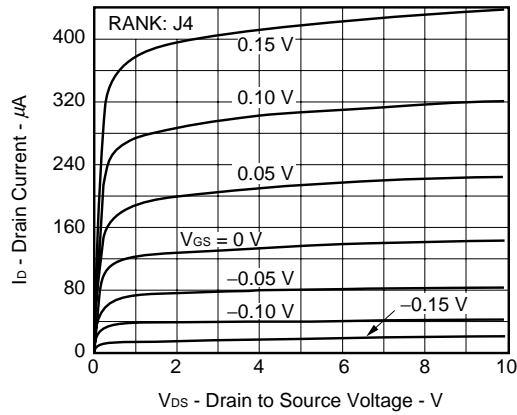
DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



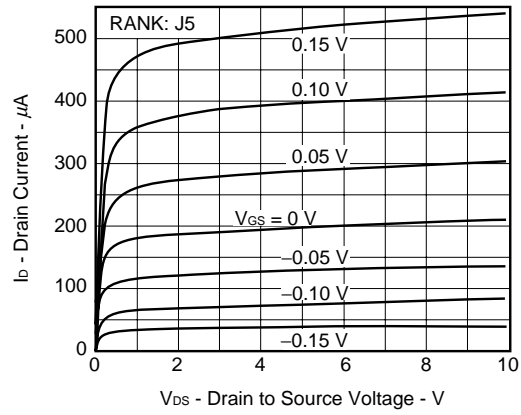
DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



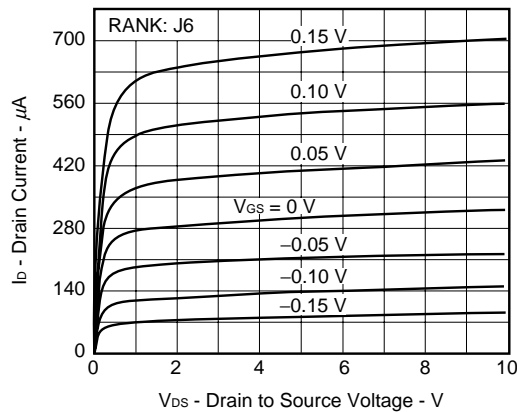
DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



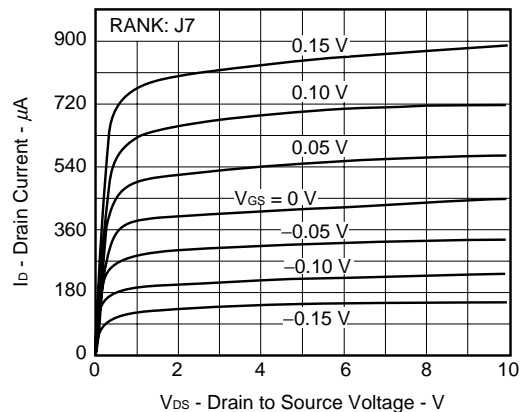
DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



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DRAIN TO SOURCE VOLTAGE



DRAIN CURRENT vs.  
DRAIN TO SOURCE VOLTAGE



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