

JUNCTION FIELD EFFECT TRANSISTOR 2SK4028

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

DESCRIPTION

The 2SK4028 is suitable for converter of ECM.

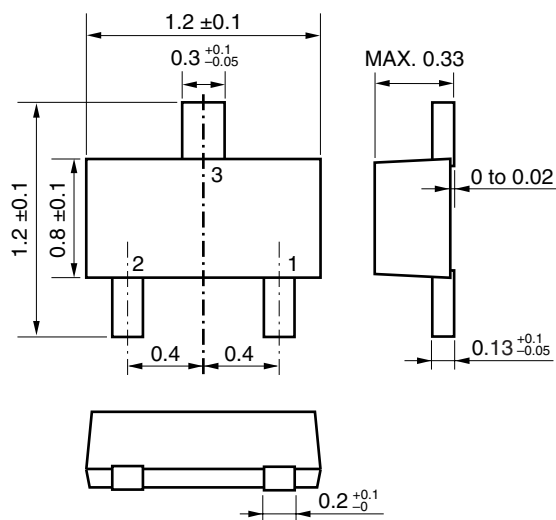
FEATURES

- High gain
-1.0 dB ($V_{DD} = 2.0$ V, $C = 5$ pF, $R_L = 2.2$ k Ω)
- Low noise
-115 dB ($V_{DD} = 2.0$ V, $C = 5$ pF, $R_L = 2.2$ k Ω)
- Ultra thin thickness package
 $t = 0.3$ mm TYP.

ORDERING INFORMATION

PART NUMBER	PACKAGE
2SK4028	3pXSOF03 (0812)

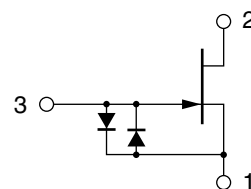
PACKAGE DRAWING (Unit: mm)



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

Drain to Source Voltage ($V_{GS} = -1.0$ V)	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



1: Source
2: Drain
3: Gate

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

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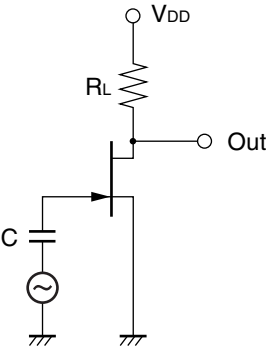
ELECTRICAL CHARACTERISTICS (T_A = 25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Zero Gate Voltage Drain Cut-off Current	I _{DSS}	V _{DS} = 2.0 V, V _{GS} = 0 V	90	250	430	μA
Gate Cut-off Voltage	V _{GS(off)}	V _{DS} = 2.0 V, I _D = 1.0 μA		-0.37	-1.0	V
Forward Transfer Admittance	y _{fs1}	V _{DS} = 2.0 V, I _D = 30 μA, f = 1.0 kHz	320	470		μS
	y _{fs2}	V _{DS} = 2.0 V, V _{GS} = 0 V, f = 1.0 kHz	800	1600		μS
Input Capacitance	C _{iss}	V _{DS} = 2.0 V, V _{GS} = 0 V, f = 1.0 MHz		4.0		pF
Voltage Gain	G _v	V _{DD} = 2.0 V, C = 5 pF, R _L = 2.2 kΩ, V _{IN} = 10 mV, f = 1 kHz		-1.0		dB
Noise Voltage	NV	V _{DD} = 2.0 V, C = 5 pF, R _L = 2.2 kΩ, A-curve		-115		dB

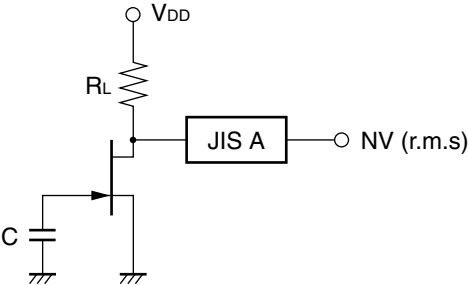
I_{DSS} CLASSIFICATION

MARKING	DE	DF	DH	DJ
I _{DSS} (μA)	90 to 180	150 to 240	210 to 350	320 to 430

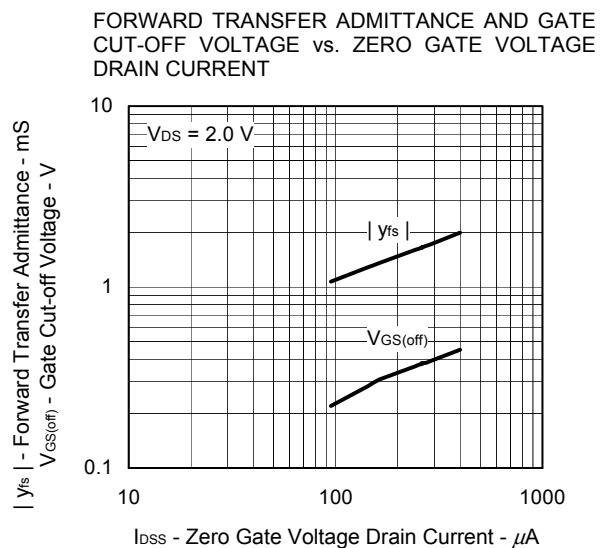
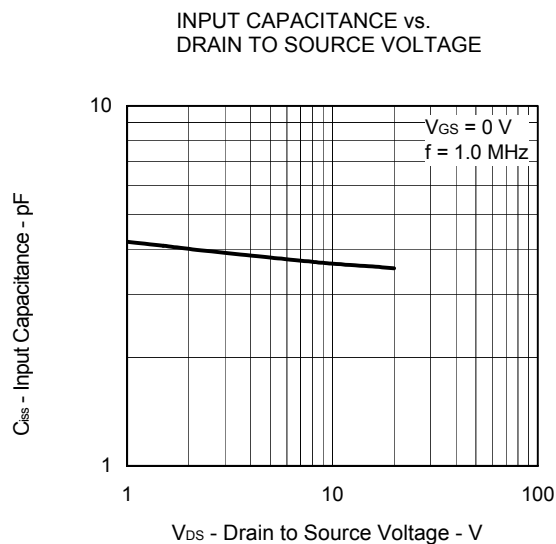
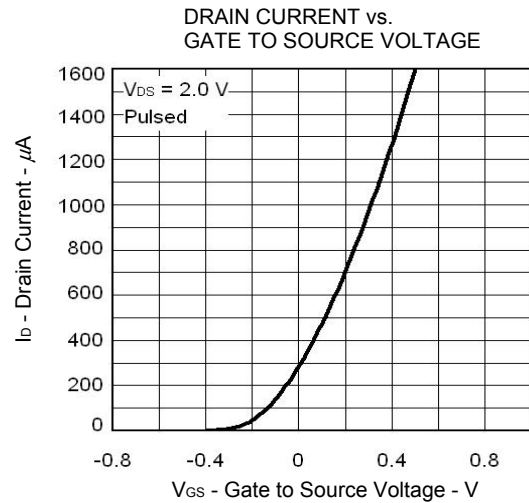
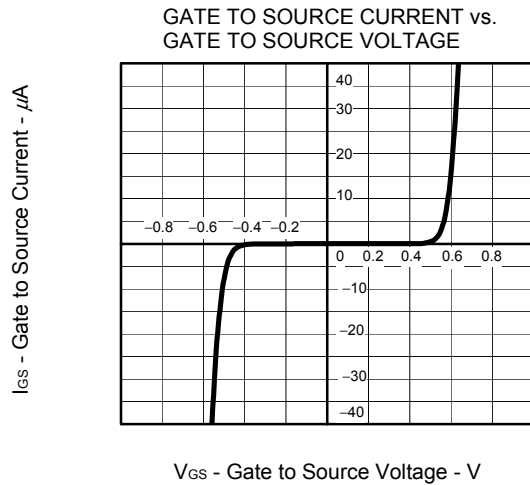
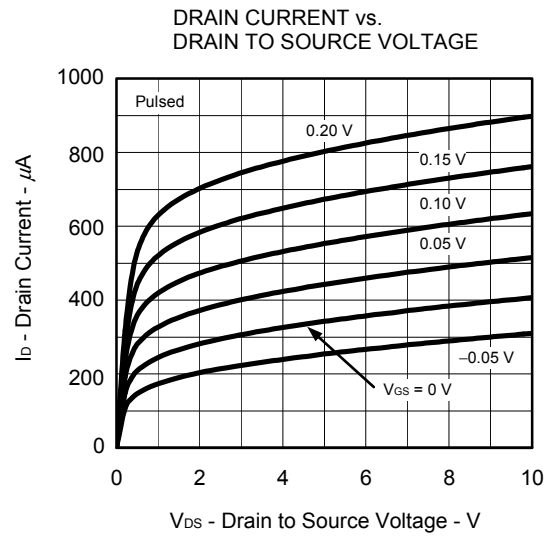
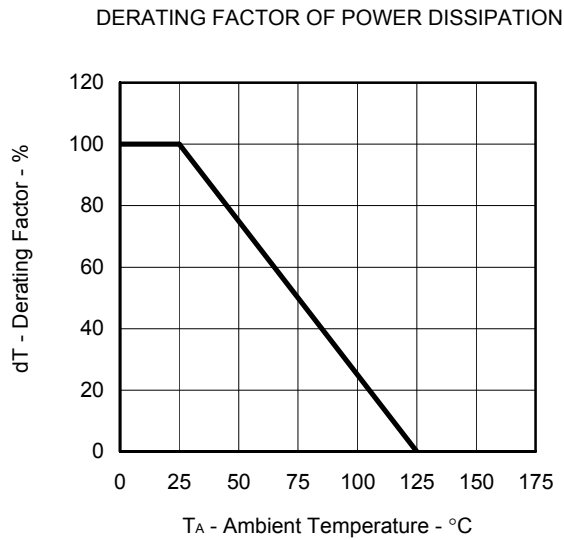
GAIN TEST CIRCUIT

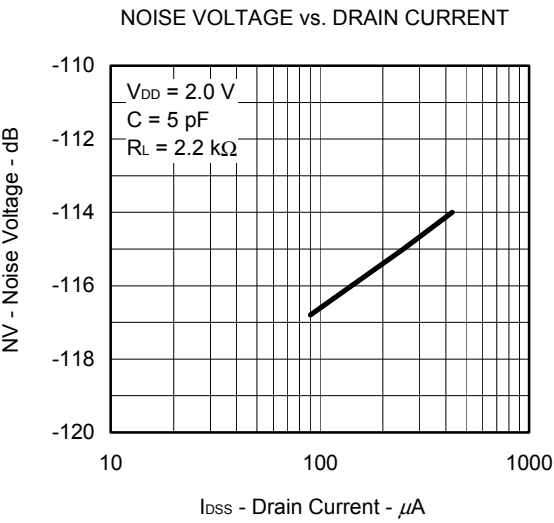
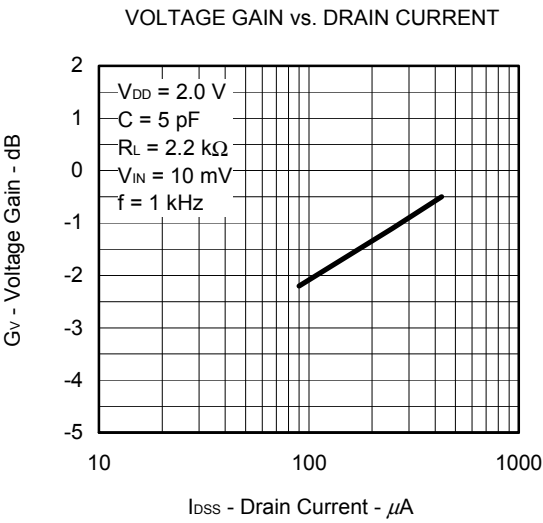


NOISE VOLTAGE TEST CIRCUIT



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





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