Ordering number: EN 3206

SANYO | No. 3206

2SK1375

N-Channel Junction Silicon FET

Capacitor Microphone Applications

Features

- Very small-sized package permitting 2SK1375-applied sets to be made small and slim
- Especially suited for use in audio, telephone capacitor microphones
- Excellent voltage characteristic
- Excellent transient characteristic
- Adoption of FBET process

Absolute Maximum Ratings at Ta = 25°C

			unit
Gate to Drain Voltage	V_{GDO}	−20	V
Gate Current	I_G	10	mA
Drain Current	I_D	1	mA
Allowable Power Dissipation	P_D	100	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Gate to Drain Breakdown Voltage	$V_{(BR)GDO}$	$I_G = -100\mu A$	−20			V
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5V, I_D = 1\mu A$	−0.2	−0.6	−1.2	V
Drain Current	I_{DSS}	$V_{DS} = 5V, V_{GS} = 0V$	140※		500※	mA
Forward Transfer Admittance	$\|y_{fs}\|$	$V_{DS} = 5V, V_{GS} = 0V, f = 1kHz$	0.5	1.2		mS
Input Capacitance	C_{iss}	$V_{DS} = 5V, V_{GS} = 0V, f = 1MHz$		3.5		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 5V, V_{GS} = 0V, f = 1MHz$		0.65		pF

※ : The 2SK1375 is classified by drain current I_{DSS} as follows (unit : μA) :

140	21	240	210	22	350	320	23	500

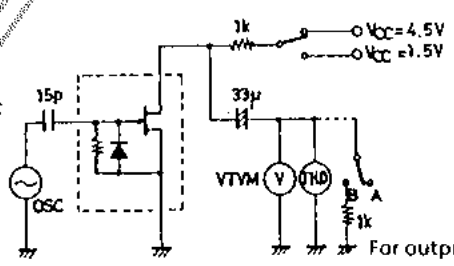
[Ta = 25°C, V_{CC} = 4.5V, R_L = 1kΩ, C_{in} = 15pF, See specified Test Circuit.]

			min	typ	max	unit
Voltage Gain	GV	f = 1kHz, V_{in} = 10mV		−3.0		dB
Reduced Voltage Characteristic	$\Delta G_V V$	f = 1kHz, V_{in} = 10mV, V_{CC} = 4.5→1.5V		−1.2	−3.5	dB
Frequency Characteristic	$\Delta G_V f$	f = 1kHz to 110Hz			−1.0	dB
Input Impedance	Z_{in}	f = 1kHz	25			MΩ
Output Impedance	Z_o	f = 1kHz			700	Ω
Total Harmonic Distortion	THD	f = 1kHz, V_{in} = 30mV		1.0		%
Output Noise Voltage	V_{NO}	V_{in} = 0, A curve			−110	dB

(Note) Marking : C
I_{DSS} rank : 21, 22, 23
For CP package, use the 2SK595.

Specified Test Circuit

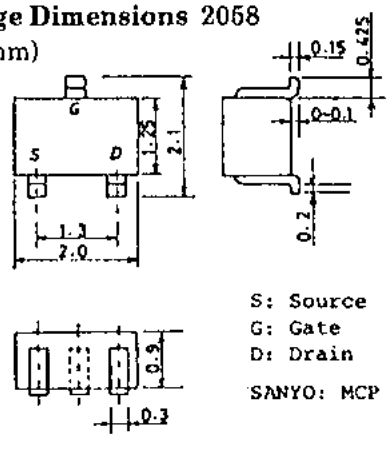
Voltage gain
Frequency characteristic
Distortion
Reduced voltage characteristic



Unit (Resistance : Ω, Capacitance : F)

Package Dimensions 2058

(unit : mm)



S: Source
G: Gate
D: Drain

SANYO: MCP

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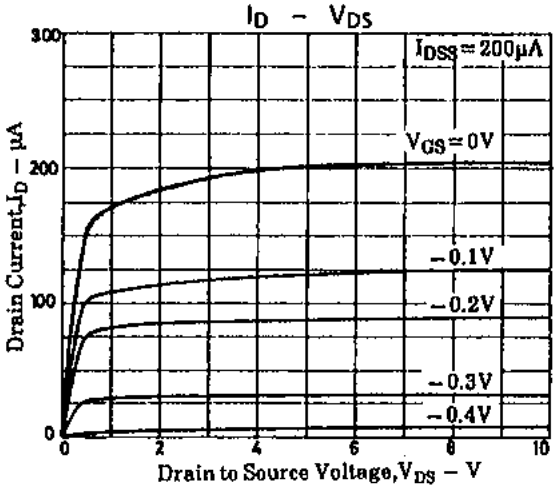
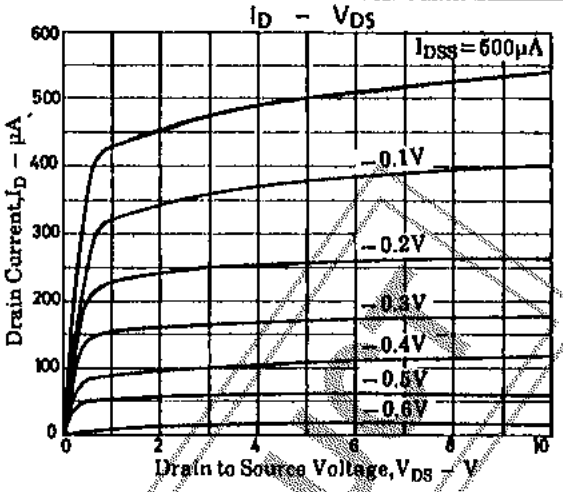
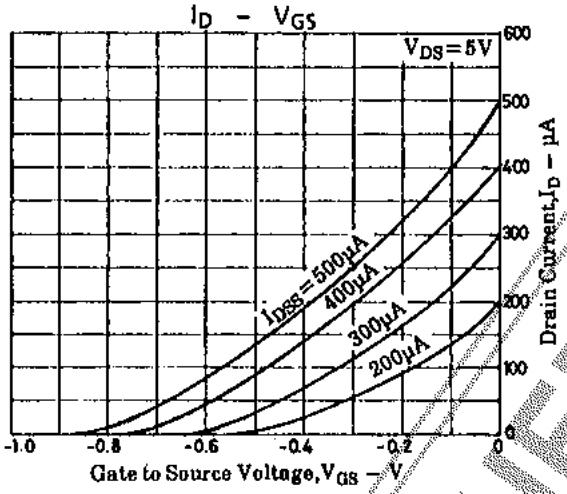
I_D – V_{DS}



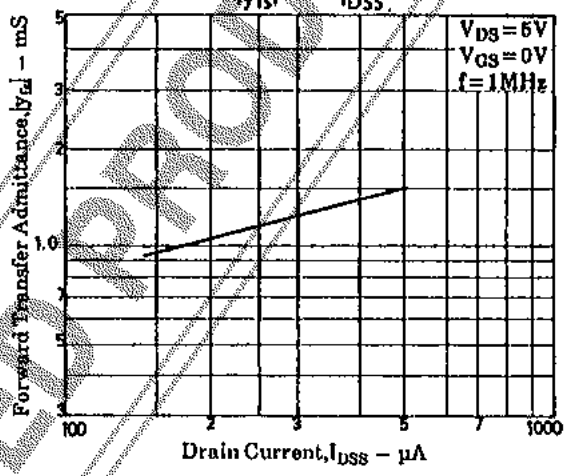
I_D – V_{DS}



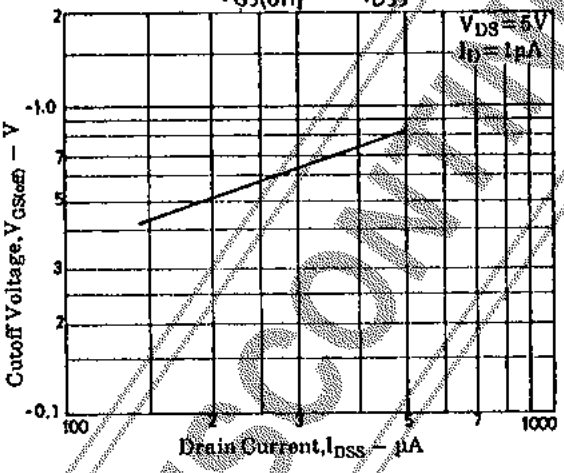
I_D – V_{GS}



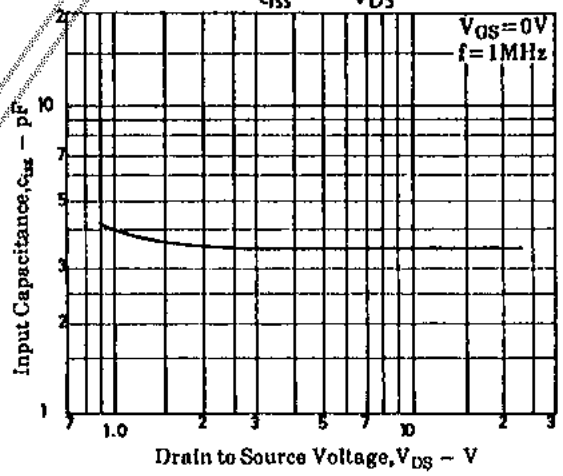
$|y_{fs}|$ – I_{DSS}



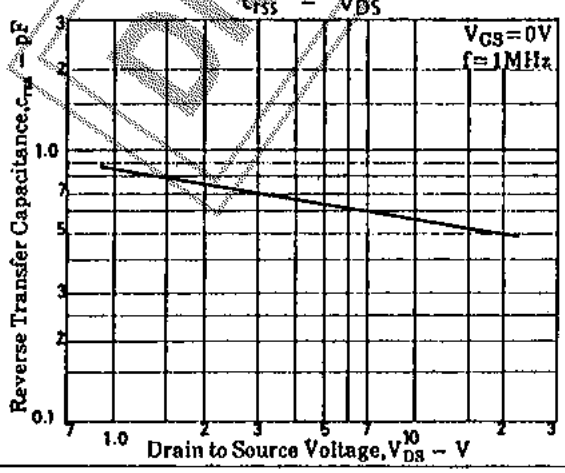
$V_{GS(off)}$ – I_{DSS}



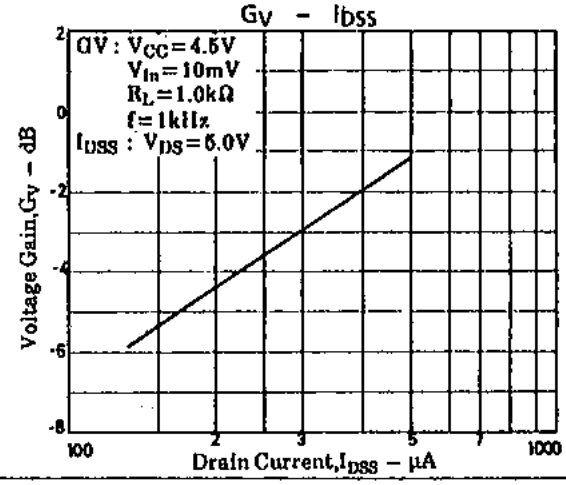
C_{iss} – V_{DS}

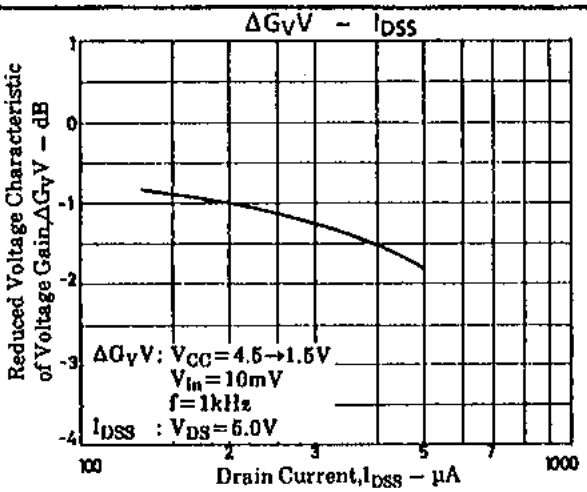


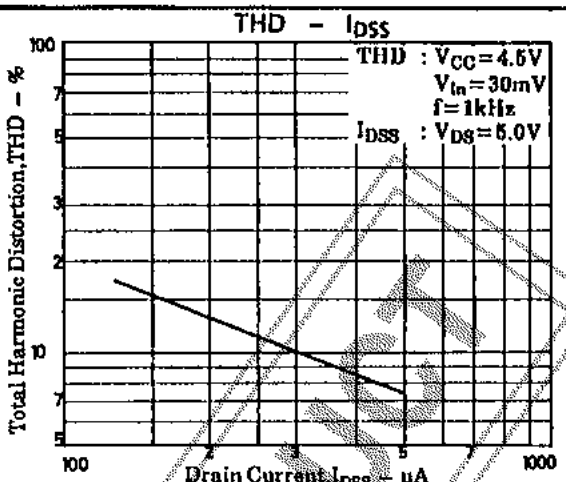
C_{rss} – V_{DS}

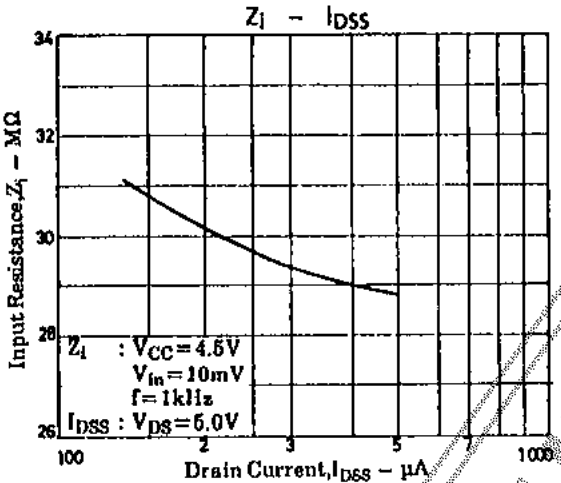


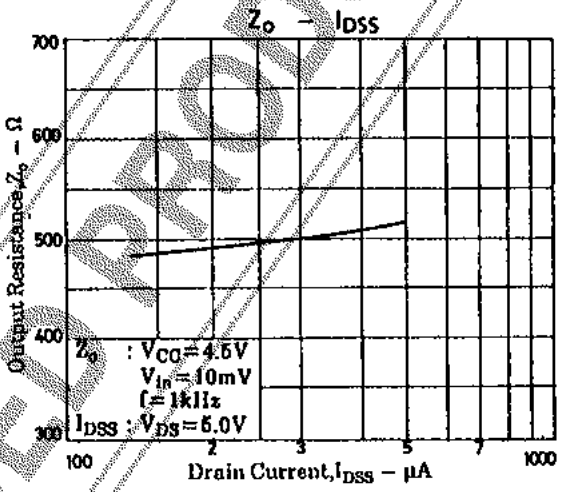
G_V – I_{DSS}

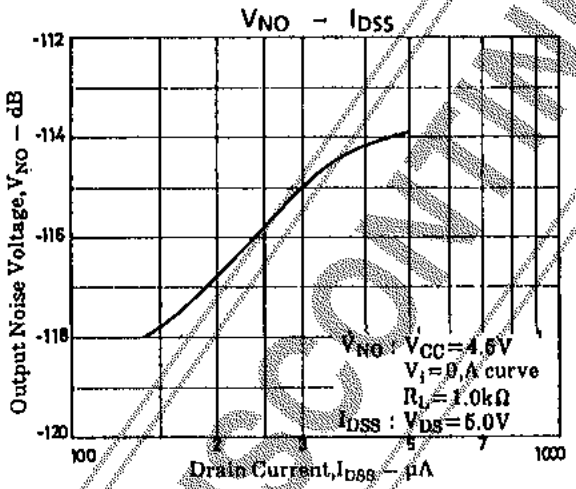


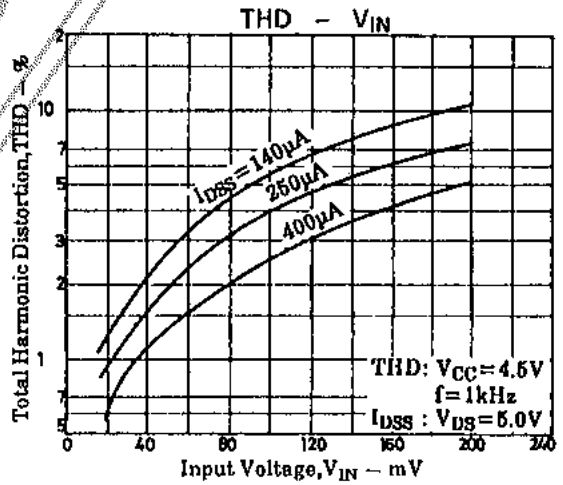


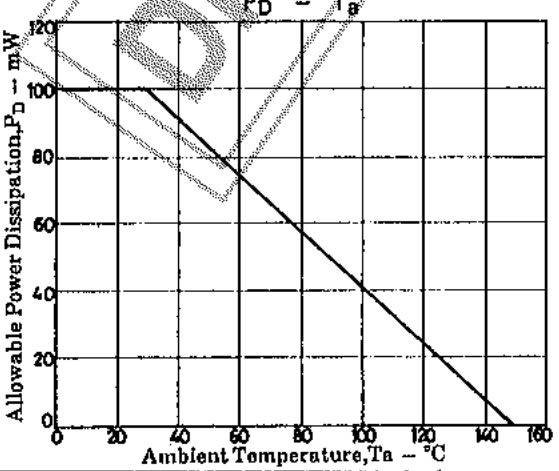












The application circuit diagrams and circuit constants herein ara included as an example and provide no guarantee for designing equipment to be mass-produced. The information herein is believed to be accurate and reliable. However, no responsibility is assumed by SANYO for its use; nor for any infringements of patents or other rights of third parties which may result from its use.