

2SK596S



ON Semiconductor®

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JFET

20V, 150 to 350 μ A, 1.0mS, N-Channel

Features

- Low output noise voltage : $V_{NO} = -110\text{dB max}$ ($V_{CC} = 4.5\text{V}$, $R_L = 1\text{k}\Omega$, $C_{in} = 15\text{pF}$, $V_{IN} = 0\text{V}$, A curve)
- Especially suited for use in condenser microphone for audio equipments and telephones
- Excellent transient characteristic
- Adoption of FBET process

Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

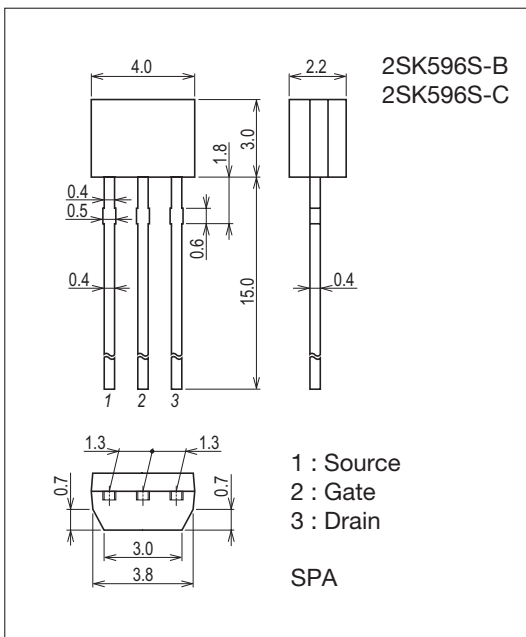
Parameter	Symbol	Conditions	Ratings	Unit
Gate-to-Drain Voltage	V_{GDO}		-20	V
Gate Current	I_G		10	mA
Drain Current	I_D		1	mA
Allowable Power Dissipation	P_D		100	mW
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

Package Dimensions

unit : mm (typ)

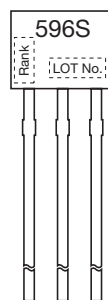
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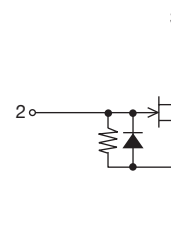
Product & Package Information

- Package : SPA
- JEITA, JEDEC : SC-72
- Minimum Packing Quantity : 500 pcs./bag

Marking



Electrical Connection



ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

2SK596S

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit	
			Rank	min	typ		max
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDO}$	$I_G = -100\mu A$		-20		V	
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5V, I_D = 1\mu A$			-0.5	-1.0	V
Drain Current	I_{DSS}^*	$V_{DS} = 5V, V_{GS} = 0V$	B	150		240	μA
			C	210		350	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 5V, V_{GS} = 0V, f = 1kHz$		0.4	1.0	mS	
Input Capacitance	C_{iss}	$V_{DS} = 5V, V_{GS} = 0V, f = 1MHz$			4.1	pF	
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 5V, V_{GS} = 0V, f = 1MHz$			0.88	pF	
[Ta=25°C, VCC=4.5V, RL=1kΩ, Cin=15pF, See specified Test Circuit.]							
Voltage Gain	G_V	$V_{IN} = 10mV, f = 1kHz$			-3.0	dB	
Reduced Voltage Characteristic	ΔG_{VV}	$V_{IN} = 10mV, f = 1kHz, V_{CC} = 4.5V \rightarrow 1.5V$			-1.0	-3.5	dB
Frequency Characteristic	ΔG_{vf}	$f = 1kHz \rightarrow 110Hz$				-1.0	dB
Total Harmonic Distortion	THD	$V_{IN} = 30mV, f = 1kHz$			1.2	%	
Output Noise Voltage	V_{NO}	$V_{IN} = 0V, A \text{ curve}$				-110	dB

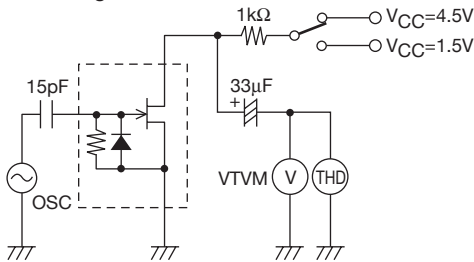
* : The 2SK596S is classified by I_{DSS} as follows : (unit : μA)

Rank	B	C
I_{DSS}	150 to 240	210 to 350

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

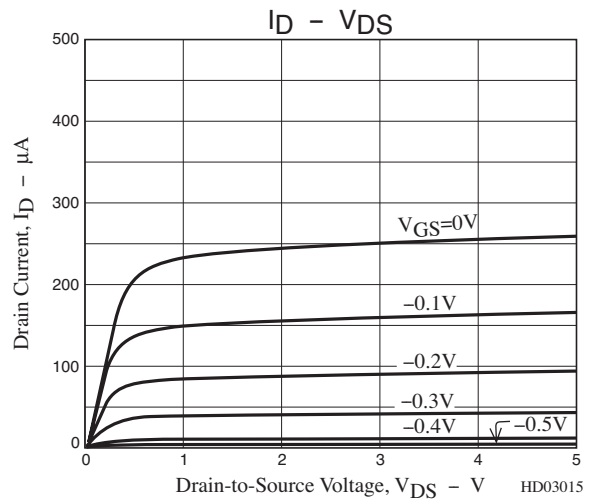
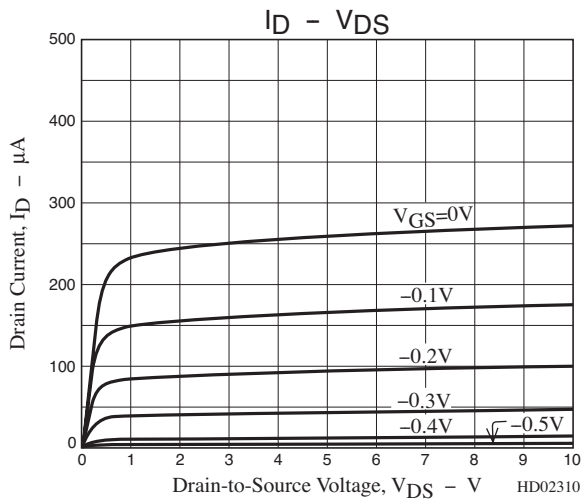
Test Circuit

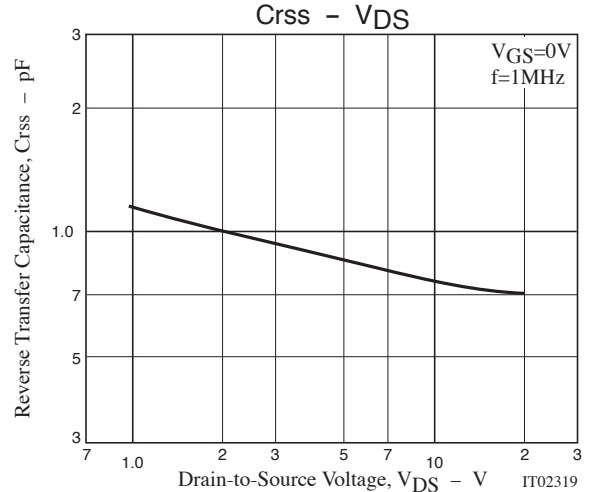
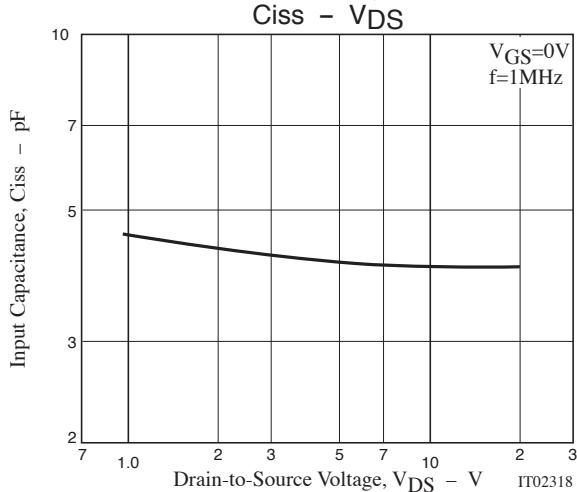
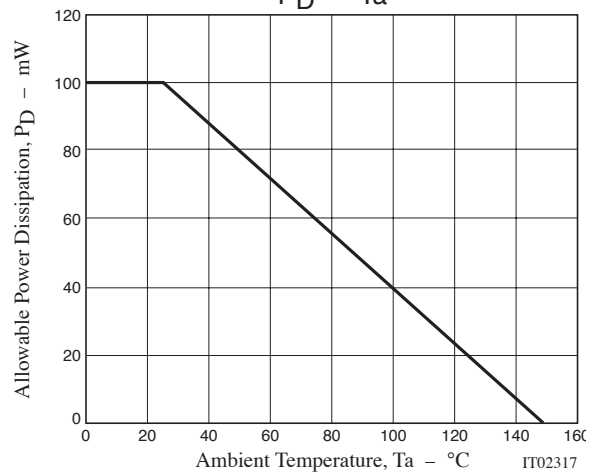
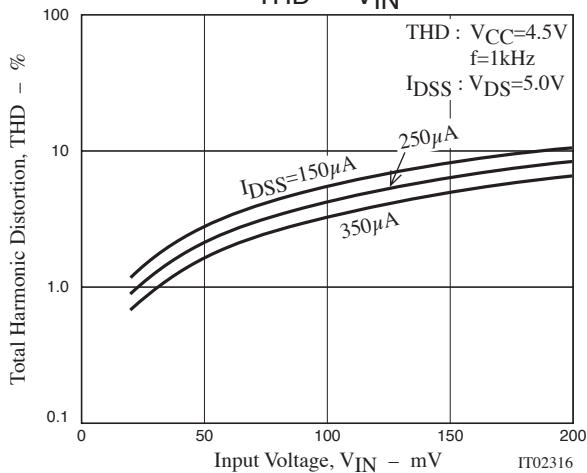
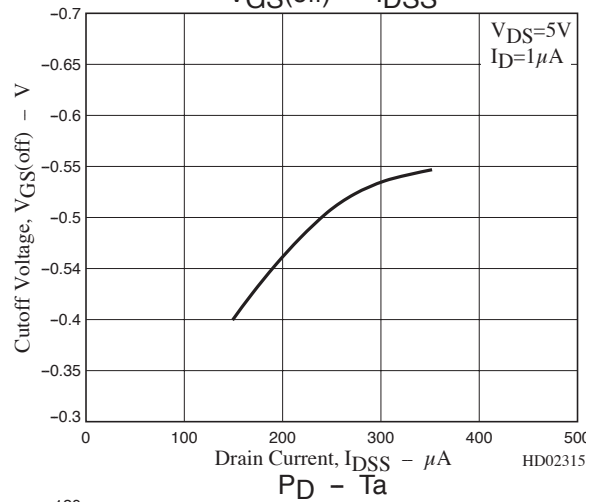
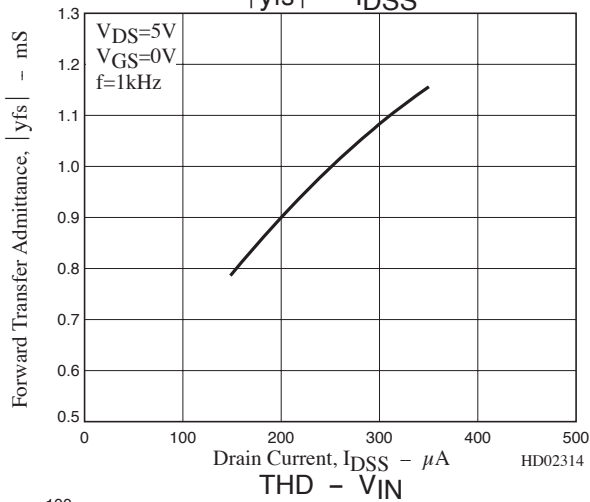
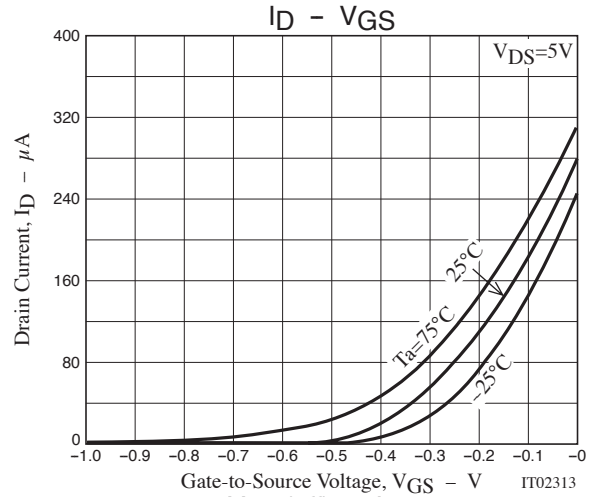
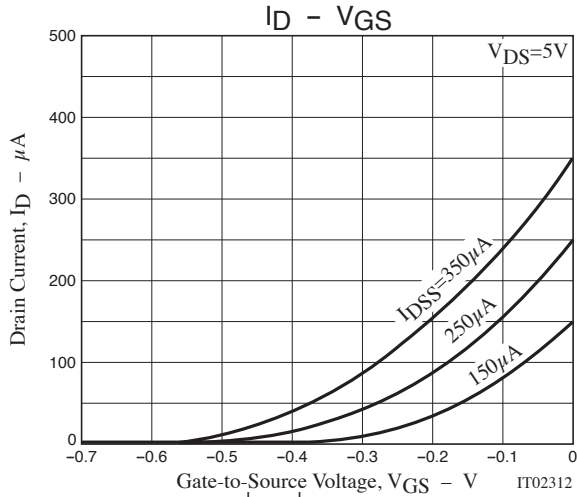
- Voltage Gain
- Frequency Characteristic
- Harmonic Distortion
- Reduced Voltage Characteristic



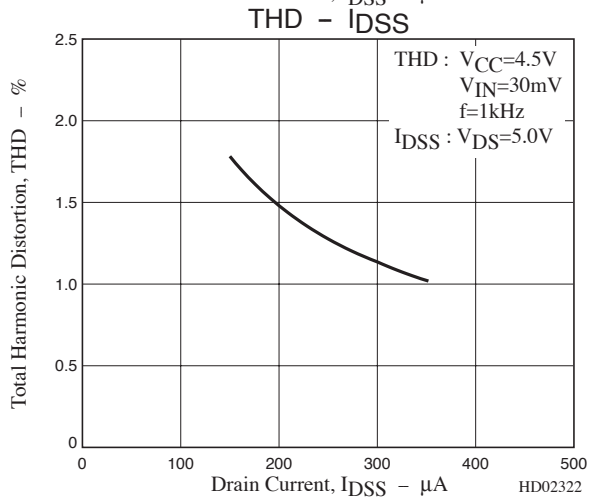
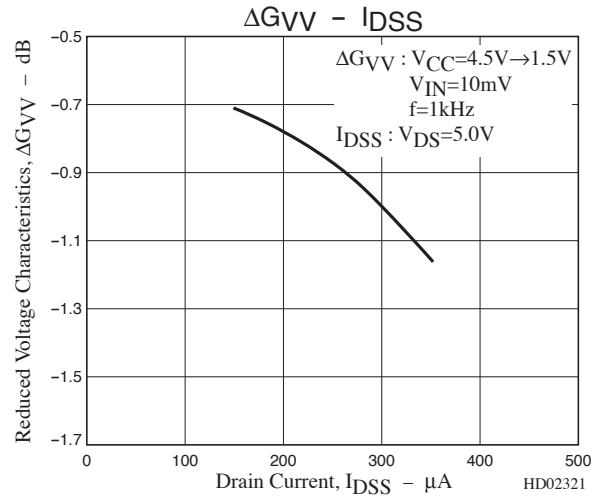
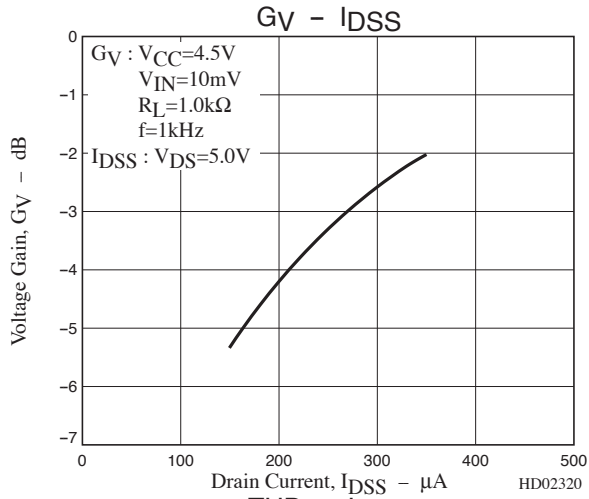
ORDERING INFORMATION

Device	Package	Shipping	memo
2SK596S-B	SPA	500pcs./bag	Pb-Free
2SK596S-C	SPA	500pcs./bag	



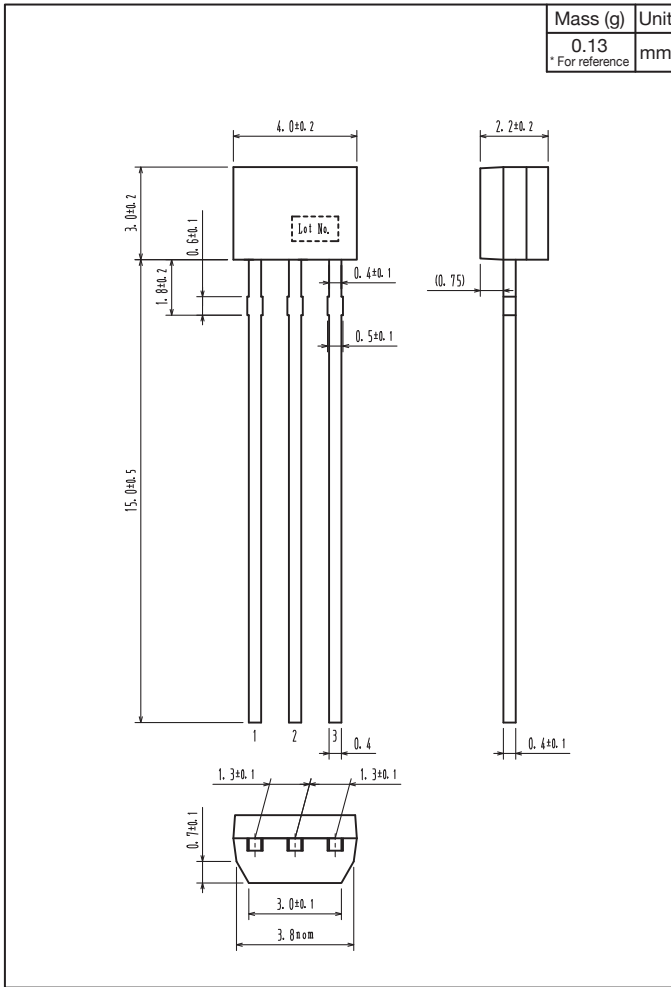


2SK596S



Outline Drawing

2SK596S-B, 2SK596S-C



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