

**EC3A01H**

Electret Condenser Microphone Applications

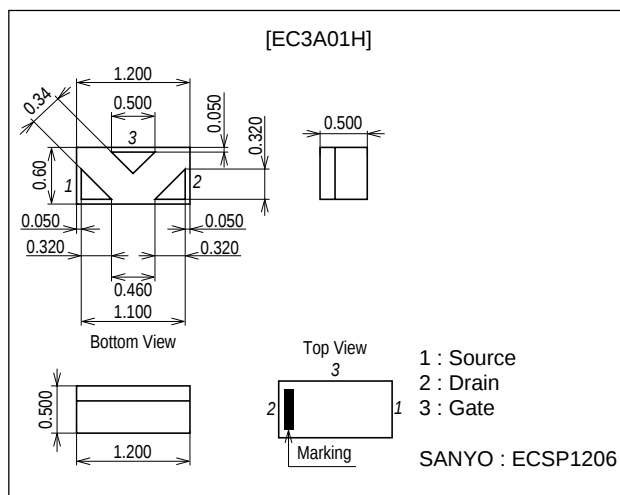
Features

- Ultraminiature (1206 size) and thin (0.5mm) leadless package.
- Especially suited for use in electret condenser microphone for audio equipments and telephones.
- Excellent voltage characteristics.
- Excellent transient characteristics.
- Adoption of FBET process.

Package Dimensions

unit : mm

2209



Specifications

Absolute Maximum Ratings at Ta=25°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	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDO}$	$I_G = -100\mu A$	-20			V
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5V, I_D = 1\mu A$	-0.2	-0.6	-1.2	V
Drain Current	I_{DSS}	$V_{DS} = 5V, V_{GS} = 0$	140*		350*	μA
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 5V, V_{GS} = 0, f = 1kHz$	0.5	1.2		mS
Input Capacitance	C_{iss}	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$		3.5		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$		0.65		pF

Continued on next page.

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EC3A01H

Continued from preceding page.

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Voltage Gain	G _V	f=1kHz, V _{IN} =10mV		-3.0		dB
Reduced Voltage Characteristics	ΔG _{VV}	f=1kHz, V _{IN} =10mV, V _{CC} =4.5→1.5V		-1.2	-3.5	dB
Frequency Characteristics	ΔG _{Vf}	f=1kHz→110kHz			-1.0	dB
Input Impedance	Z _{IN}	f=1kHz	25			MΩ
Output Impedance	Z _O	f=1kHz		1000		Ω
Total Harmonic Distortion	THD	f=1kHz, V _{IN} =30mV		1.2		%
Output Noise Voltage	V _{NO}	V _{IN} =0, A Curve			-110	dB

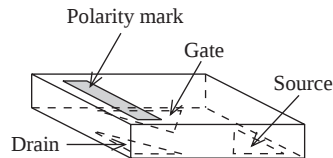
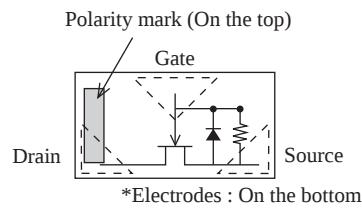
*EC3A01H is classified by I_{DSS} as follows. (unit : μA)

I _{DSS}	V4	V5
	140 to 240	210 to 350

Type No. Indication (Top view)

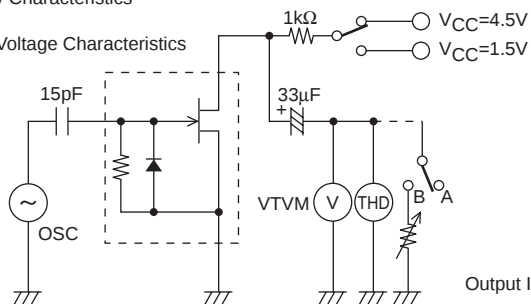


Electrical Connection (Top view)

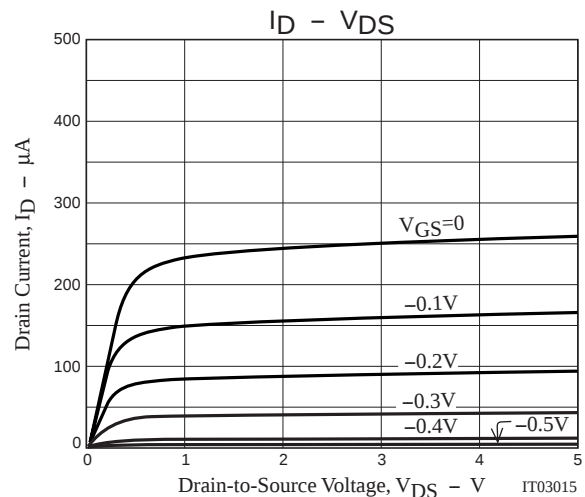
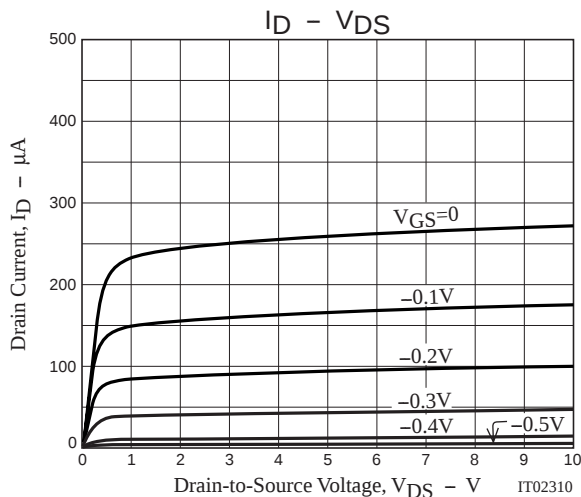


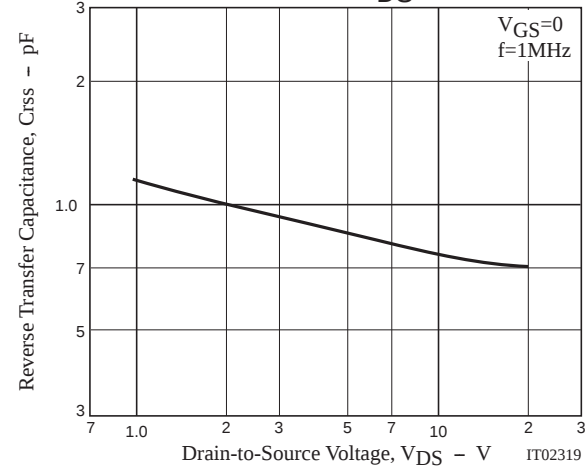
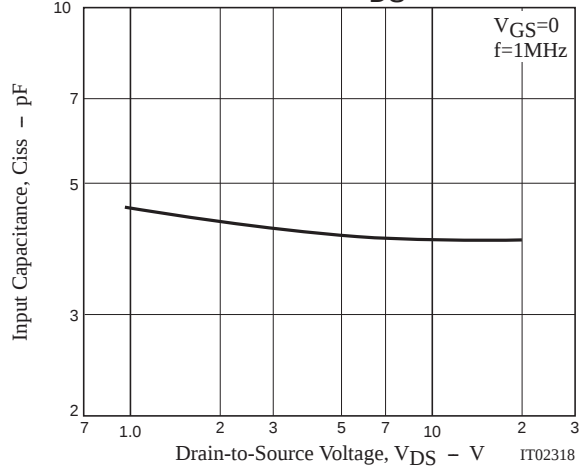
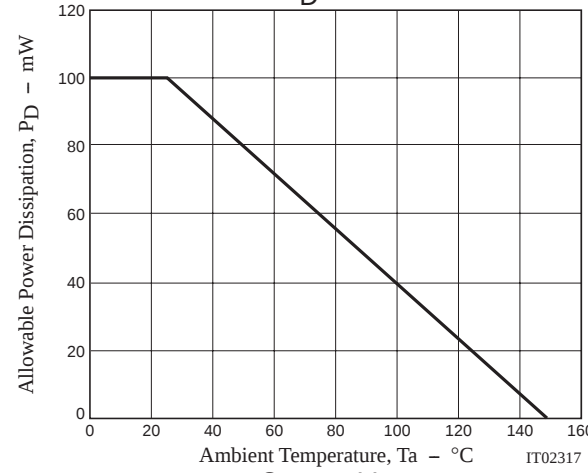
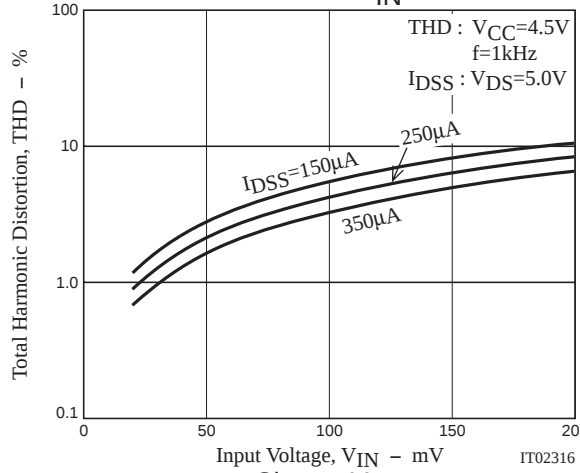
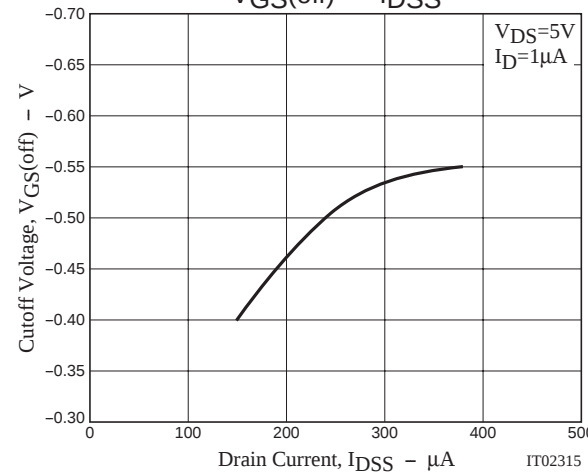
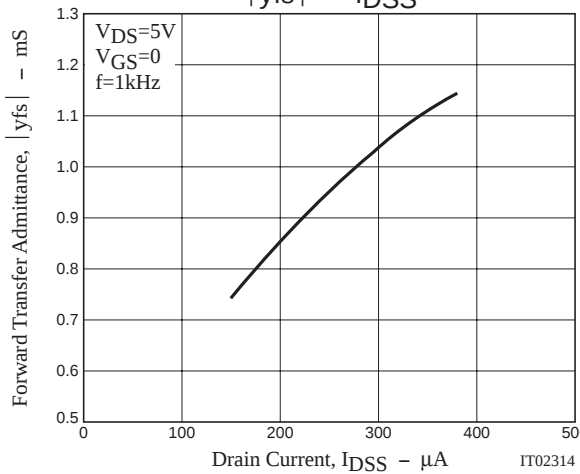
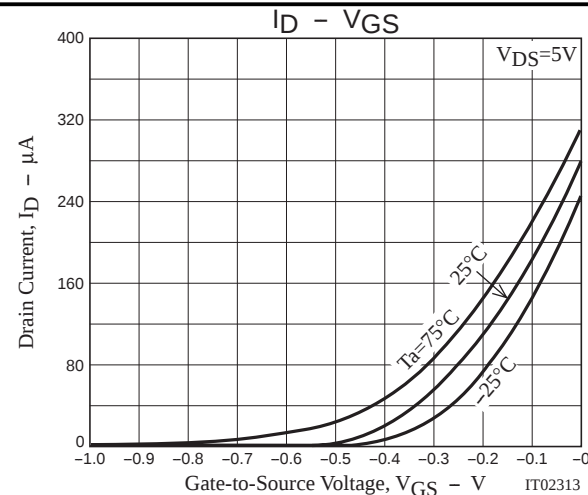
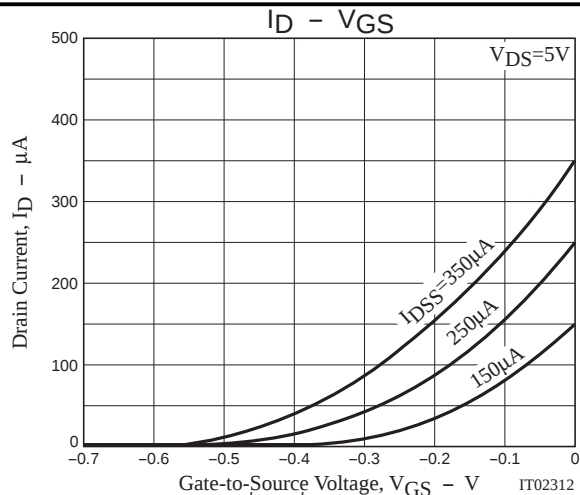
Test Circuit

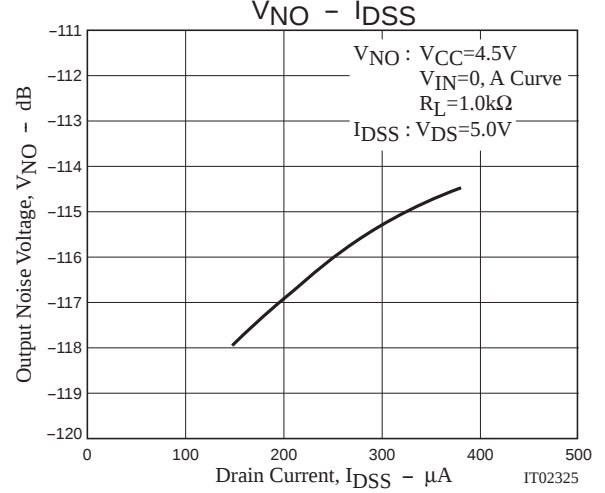
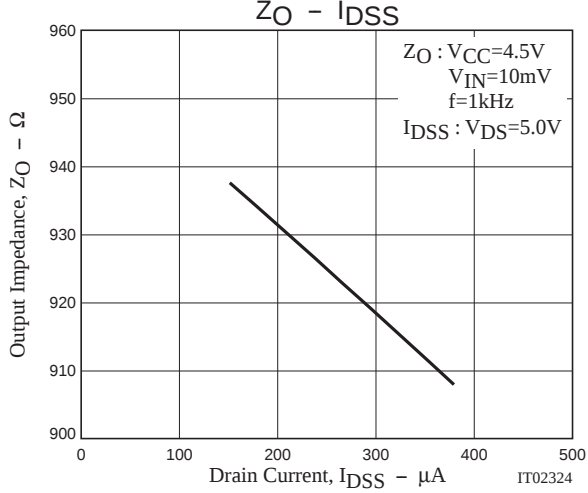
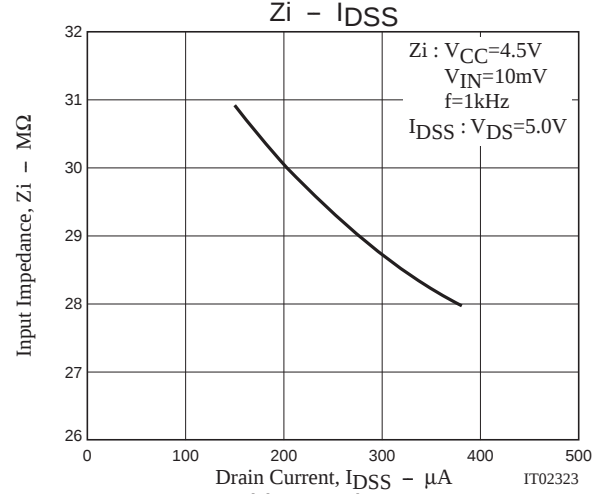
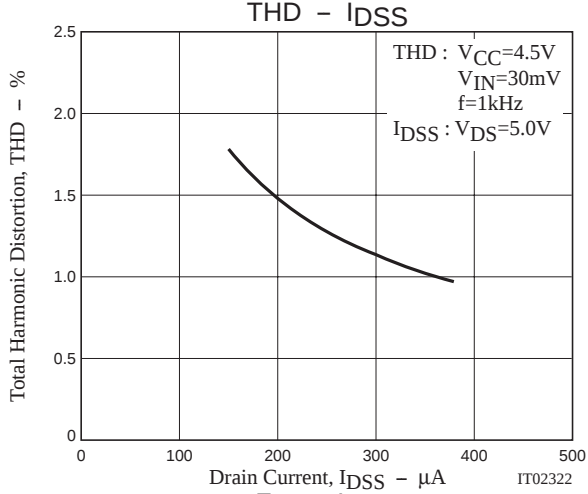
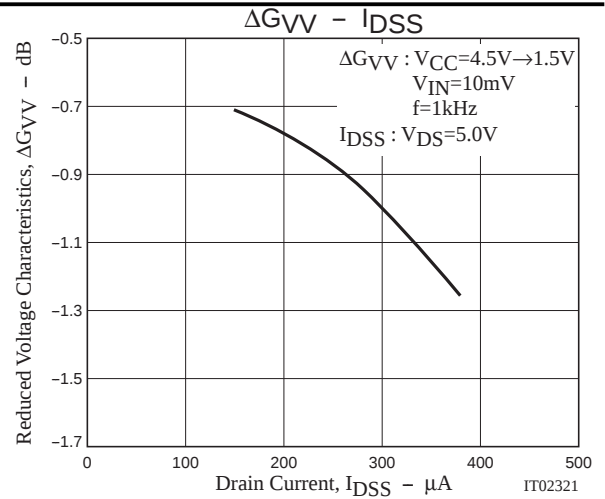
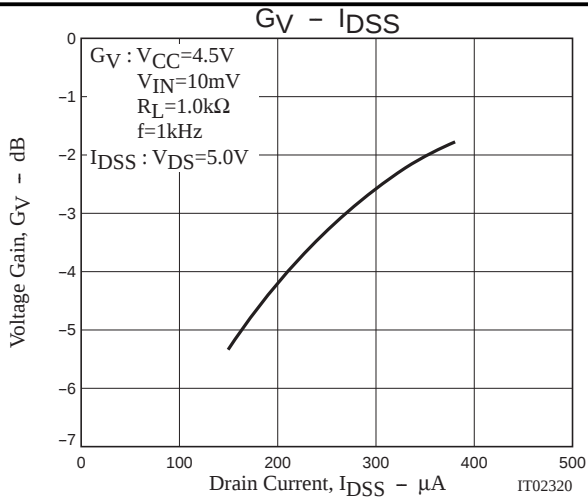
Voltage Gain
Frequency Characteristics
Distortion
Reduced Voltage Characteristics



Output Impedance







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