

Ordering number : ENN7617

N-Channel Silicon Junction FET

EC3A01T



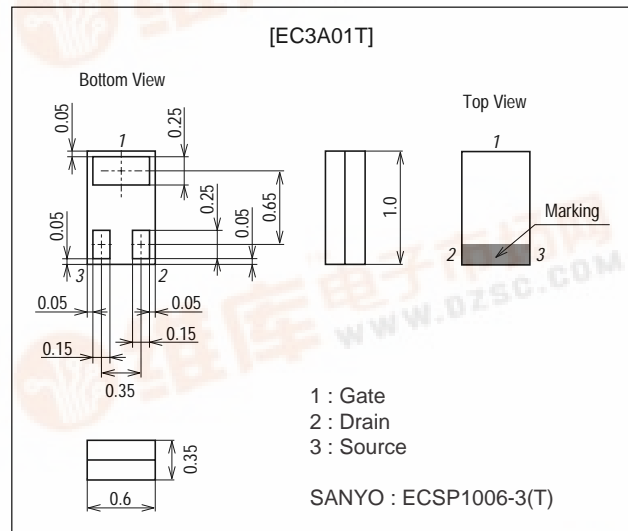
Electret Condenser Microphone Applications

Features

- Ultrasmall (1006 size) and thin (0.35mm) 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
2223



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Gate-to-Drain Voltage	V _{GD0}		-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)GD0}	I _G =-100μA	-20			V
Cutoff Voltage	V _{GS(off)}	V _{DS} =5V, I _D =1μA	-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

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[$T_a=25^\circ\text{C}$, $V_{CC}=4.5\text{V}$, $R_L=1\text{k}\Omega$, $C_{in}=15\text{pF}$, See Specified Test Circuit]

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Voltage Gain	G_V	$f=1\text{kHz}$, $V_{IN}=10\text{mV}$		-3.0		dB
Reduced Voltage Characteristic	ΔG_{VV}	$f=1\text{kHz}$, $V_{IN}=10\text{mV}$, $V_{CC}=4.5 \rightarrow 1.5\text{V}$		-1.2	-3.5	dB
Frequency Characteristic	ΔG_f	$f=1\text{kHz}$ to 110Hz			-1.0	dB
Input Impedance	Z_{IN}	$f=1\text{kHz}$	25			$\text{M}\Omega$
Output Impedance	Z_O	$f=1\text{kHz}$		1000		Ω
Total Harmonic Distortion	THD	$f=1\text{kHz}$, $V_{IN}=30\text{mV}$		1.2		%
Output Noise Voltage	V_{NO}	$V_{IN}=0$, A Curve			-110	dB

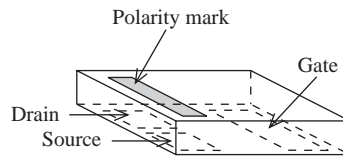
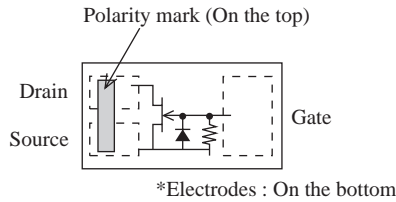
*The EC3A01T is classified by I_{DSS} as follows.(unit : μA)

Rank	V4	V5
I_{DSS}	140 to 240	210 to 350

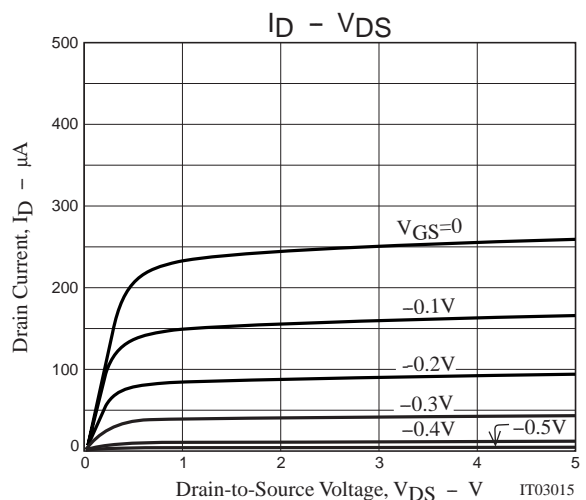
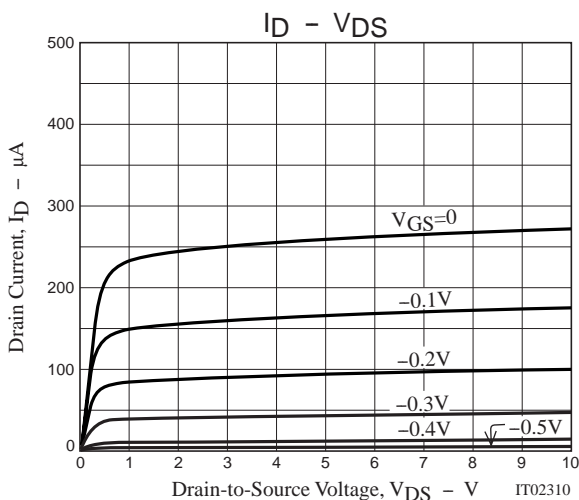
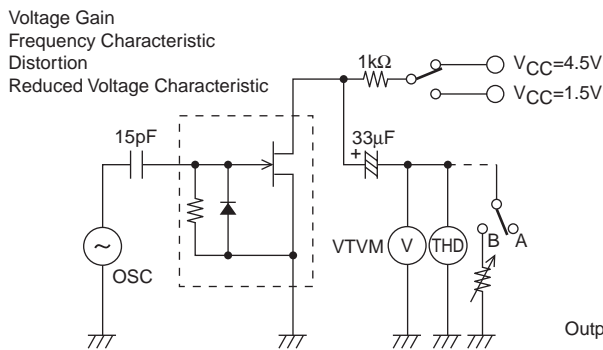
Type No. Indication (Top view)



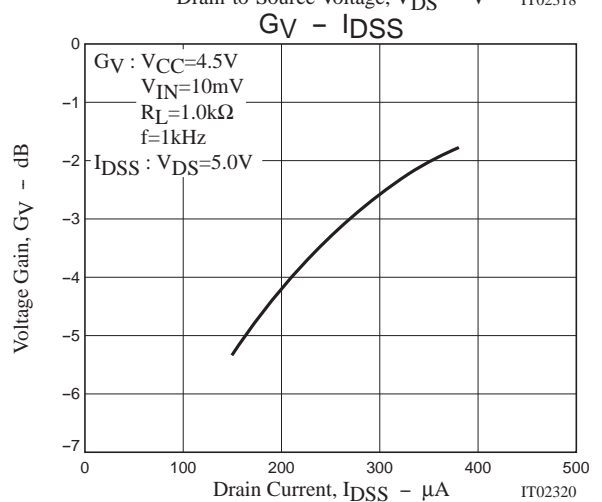
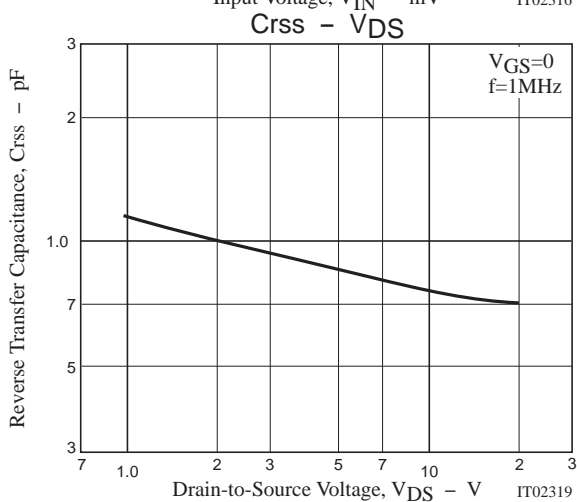
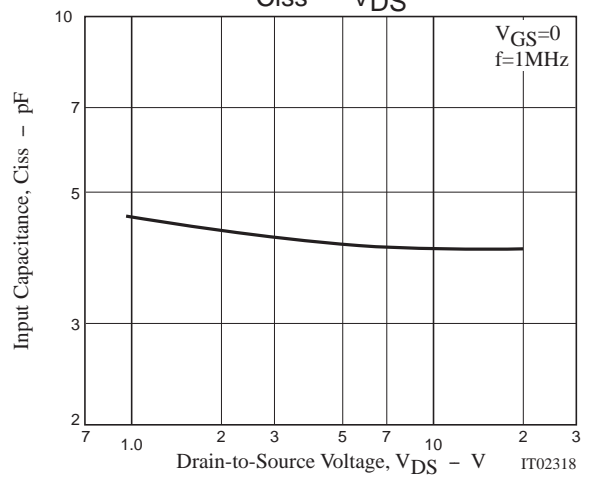
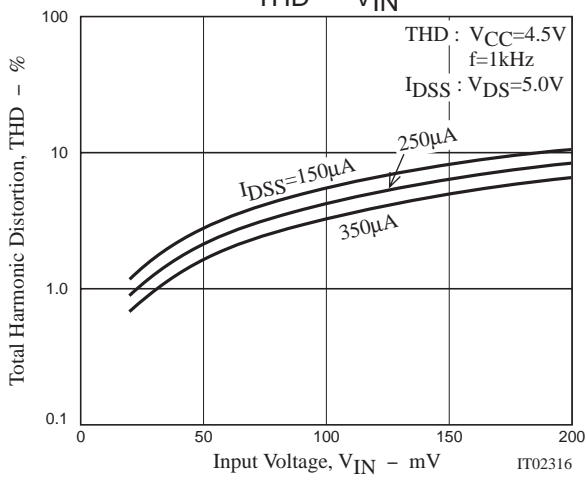
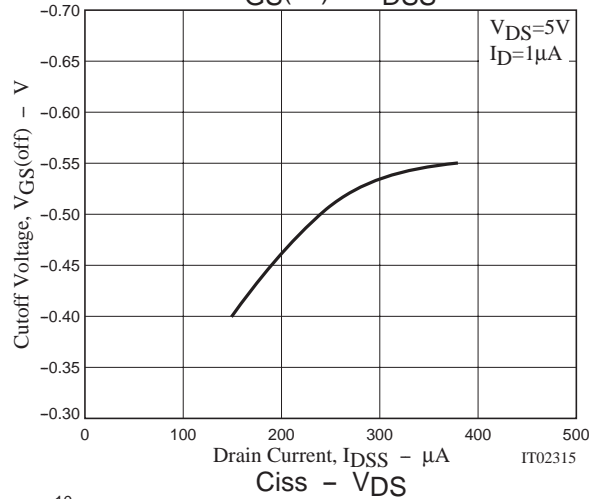
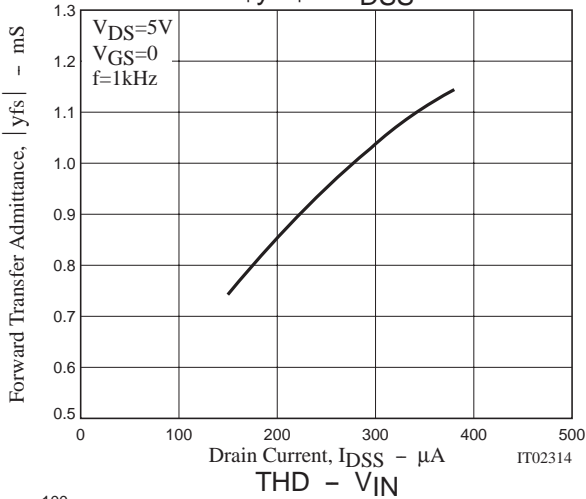
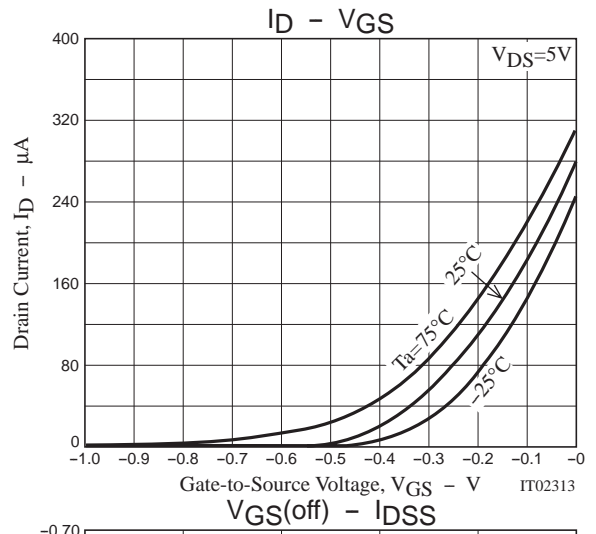
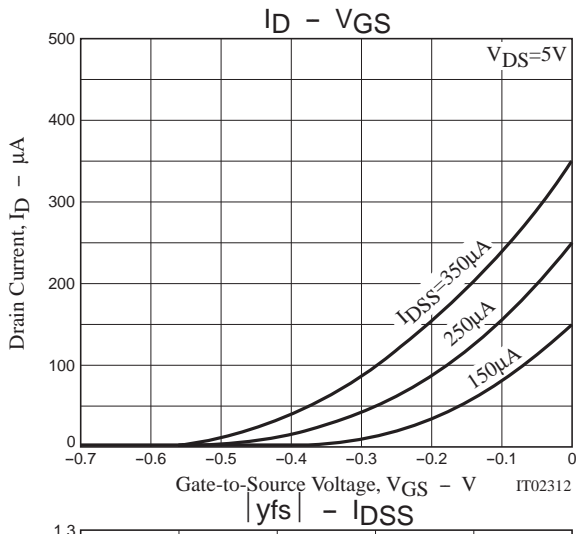
Electrical Connection (Top view)



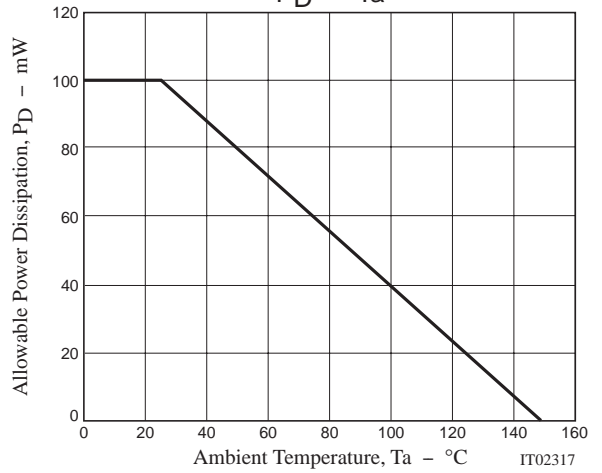
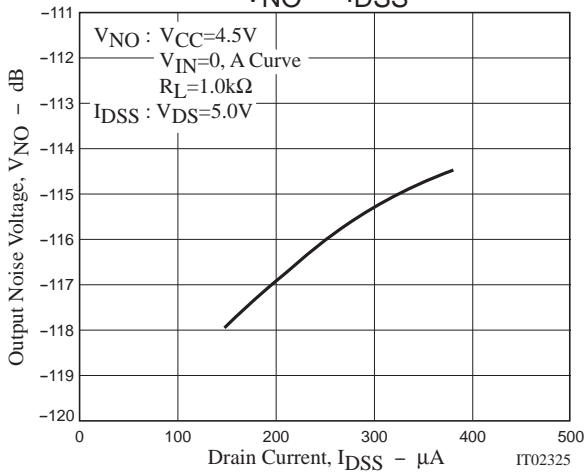
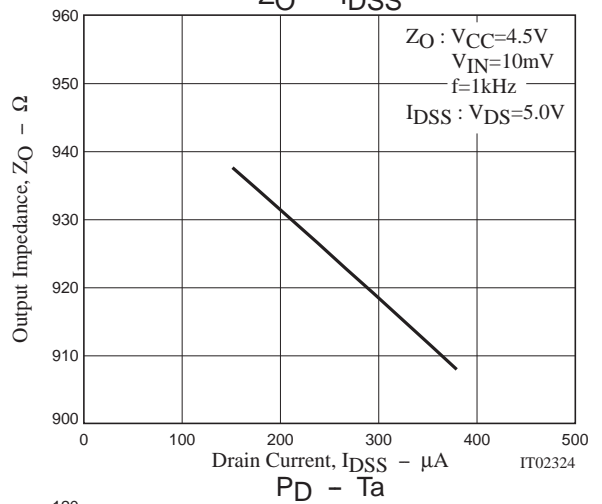
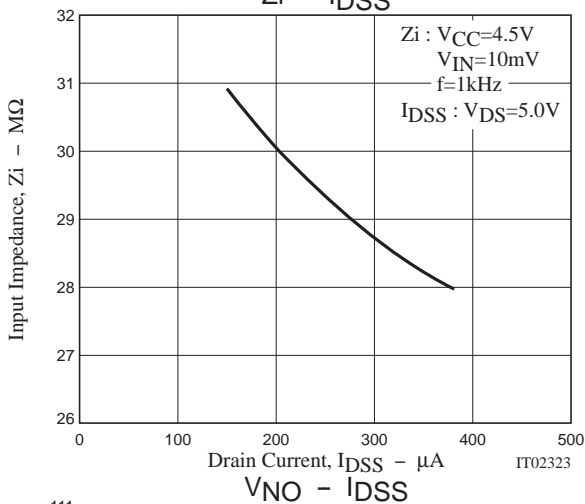
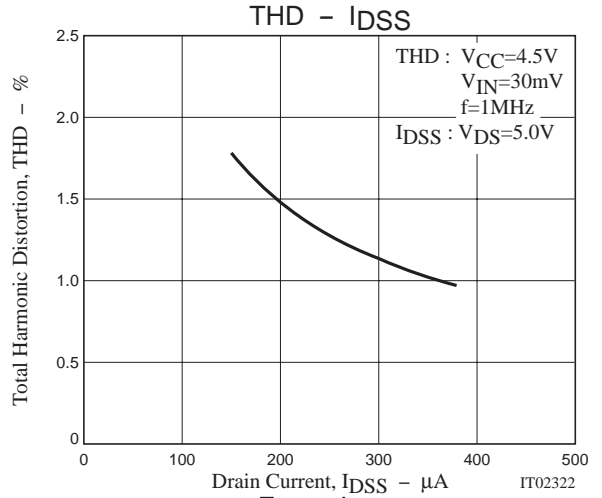
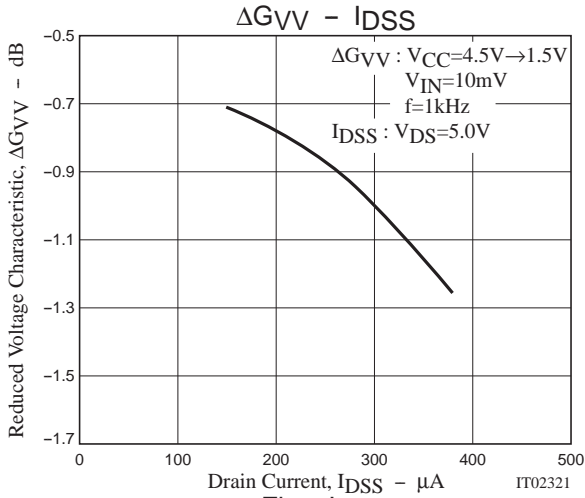
Test Circuit



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