



Electret Condenser Microphone Applications

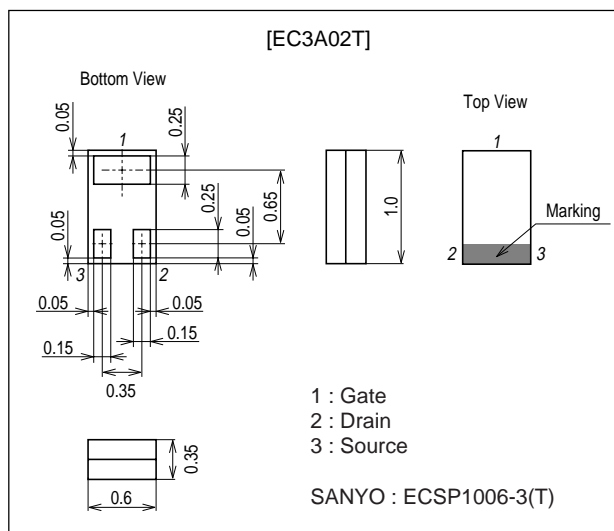
Features

- 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} =2V, I _D =1μA	-0.1		-1.0	V
Drain Current	I _{DSS}	V _{DS} =2V, V _{GS} =0	140*		350*	μA

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*The EC3A02T is classified by I_{DSS} as follows.(unit : μA)

Rank	4	5
I _{DSS}	140 to 240	210 to 350

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=2V, V_{GS}=0, f=1kHz$	0.5			mS
Input Capacitance	C_{iss}	$V_{DS}=2V, V_{GS}=0, f=1MHz$		5.0		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=2V, V_{GS}=0, f=1MHz$		1.1		pF

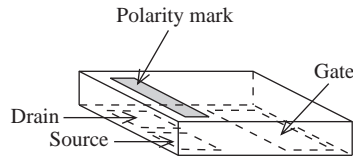
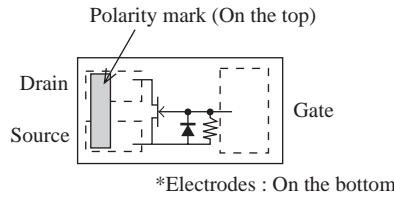
[$T_a=25^\circ C, V_{CC}=2.0V, R_L=2.2k\Omega, C_{in}=5pF$, See Specified Test Circuit]

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Voltage Gain	G_V	$f=1kHz, V_{IN}=10mV$		-2.0		dB
Reduced Voltage Characteristic	ΔG_{VV}	$f=1kHz, V_{IN}=10mV, V_{CC}=2 \rightarrow 1.5V$		-0.6	-2.0	dB
Frequency Characteristic	ΔG_{vf}	$f=1kHz$ to 110Hz			-1.0	dB
Total Harmonic Distortion	THD	$f=1kHz, V_{IN}=30mV$		0.7		%
Output Noise Voltage	V_{NO}	$V_{IN}=0, A$ Curve			-102	dB

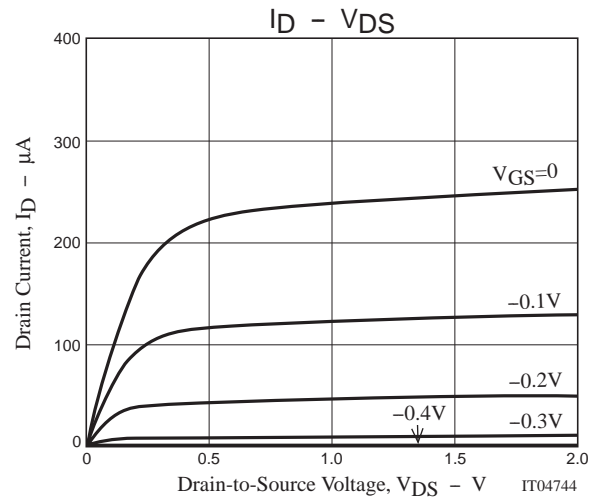
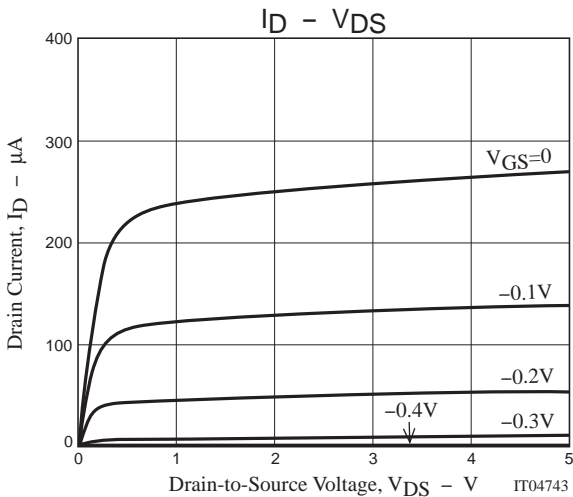
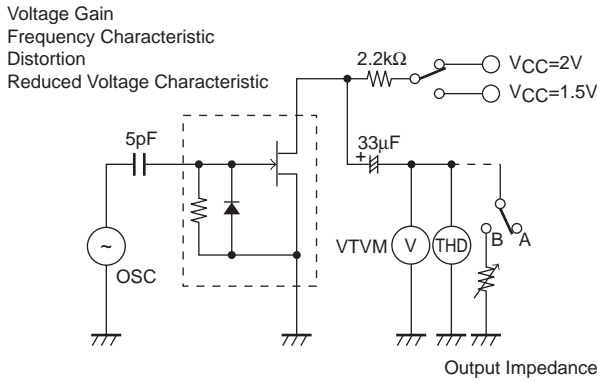
Type No. Indication (Top view)



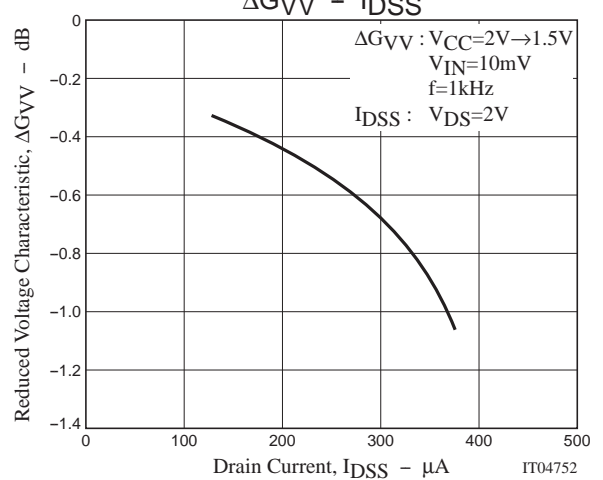
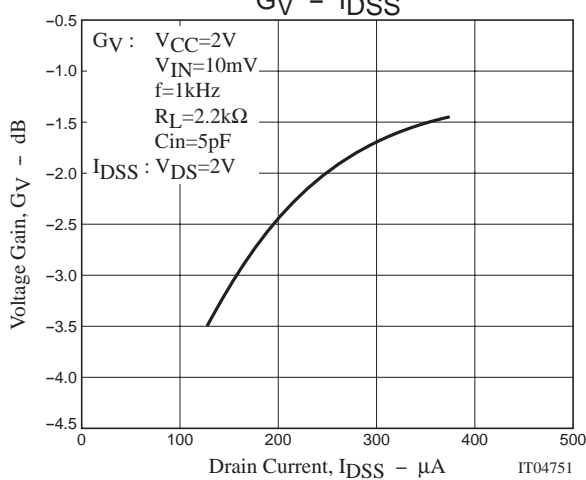
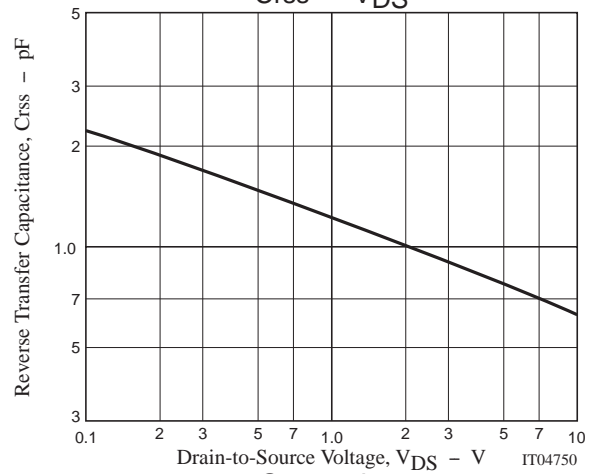
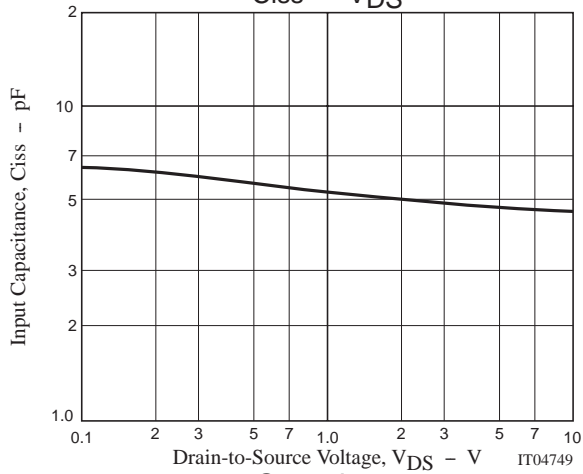
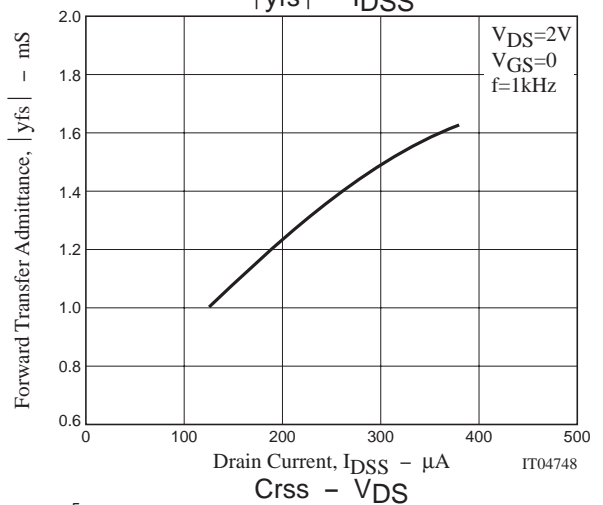
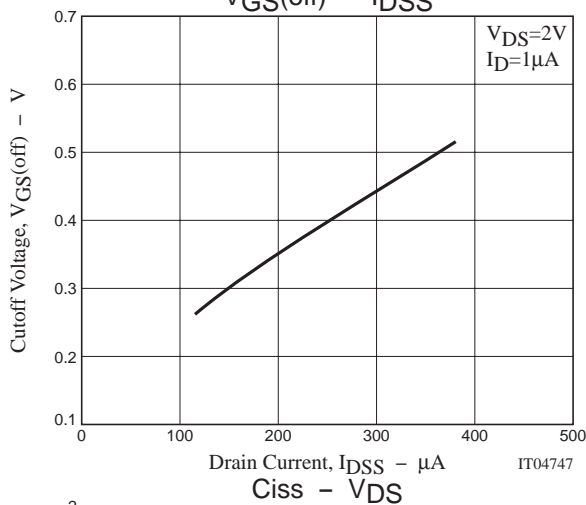
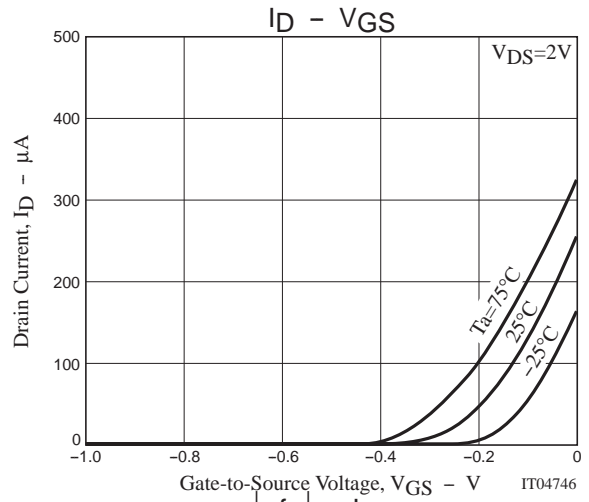
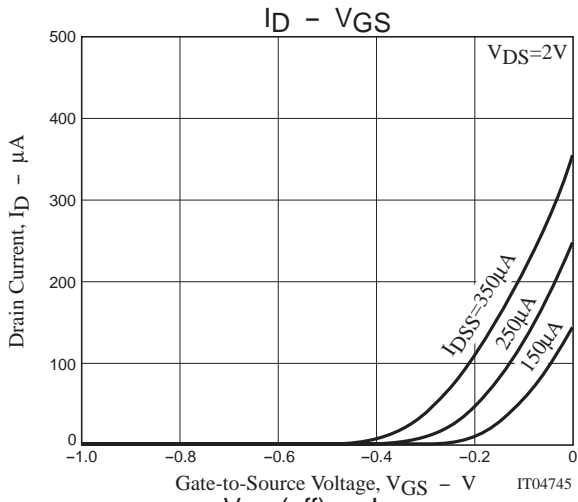
Electrical Connection (Top view)



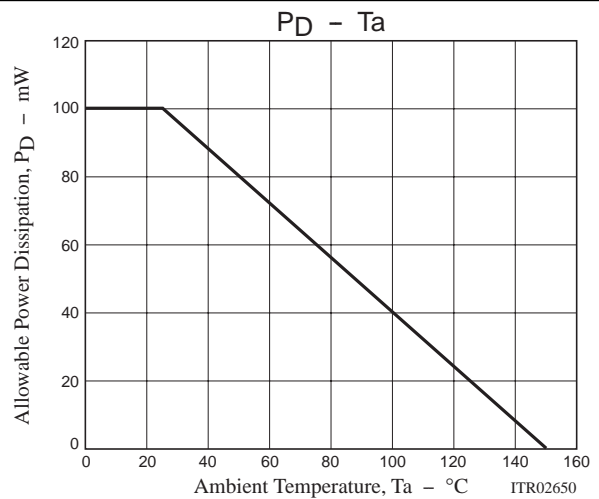
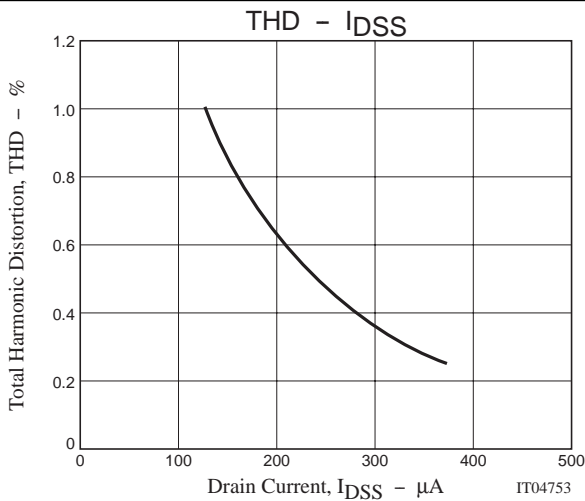
Test Circuit



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