

**TF222**

Electret Condenser Microphone Applications

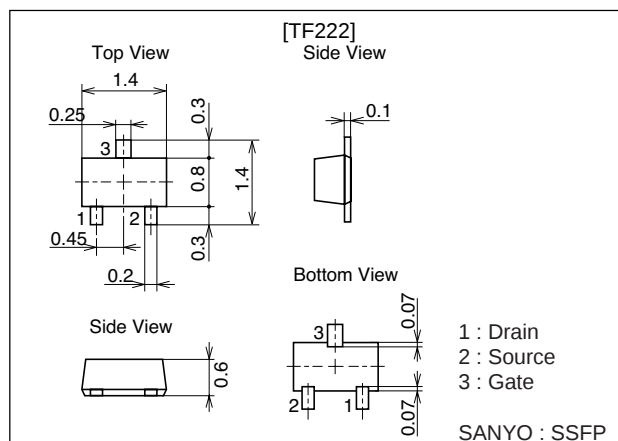
Features

- Especially suited for use in electret condenser microphone.
- Ultrasmall package permitting TF222 applied sets to be made small and slim.
- Excellent voltage characteristics.
- Excellent transient characteristics.
- Adoption of FBET process.

Package Dimensions

unit : mm

2207A



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 =-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
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

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* : The TF222 is classified by I_{DSS} as follows : (unit : μA)

Rank	B4	B5
I _{DSS}	140 to 240	210 to 350

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SANYO Electric Co.,Ltd. Semiconductor Company

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

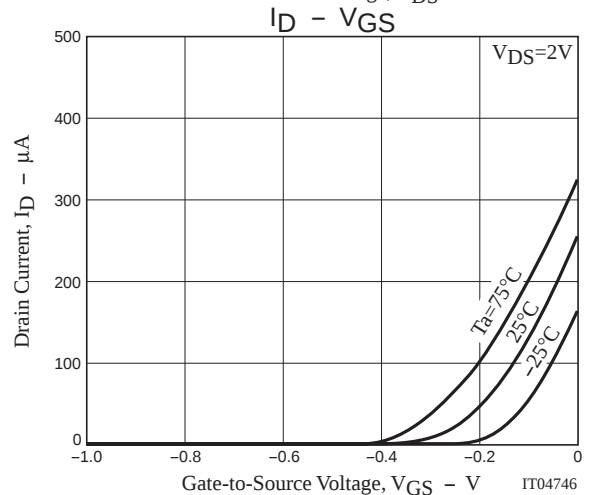
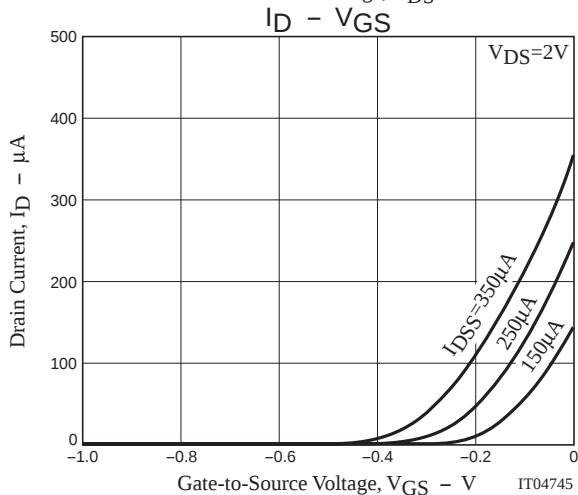
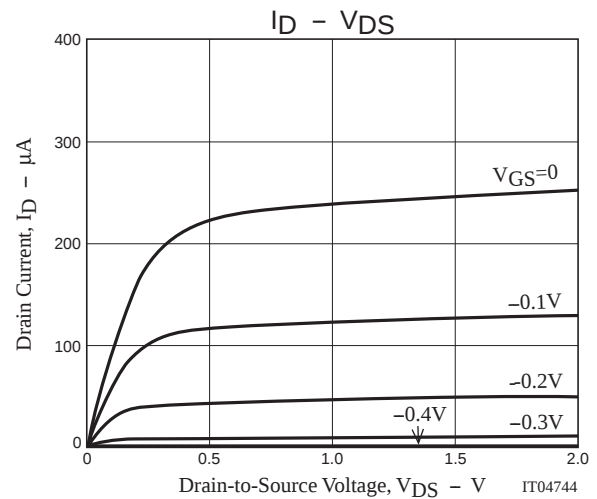
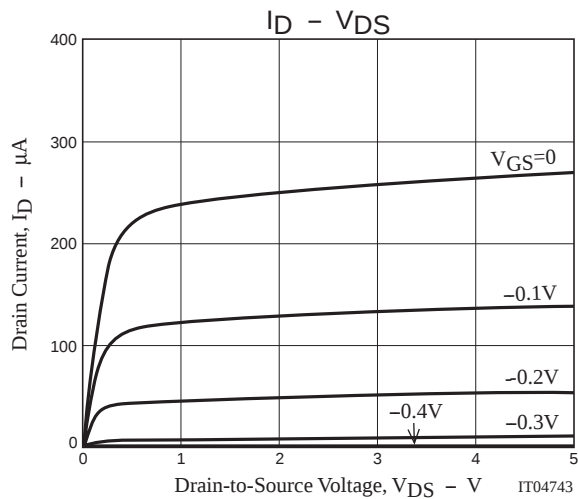
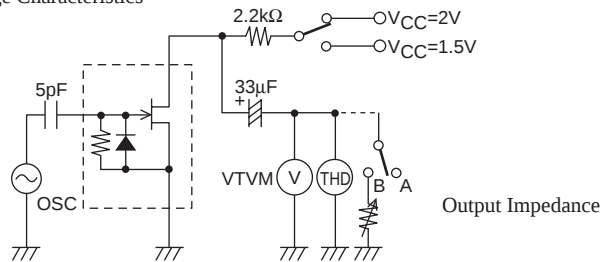
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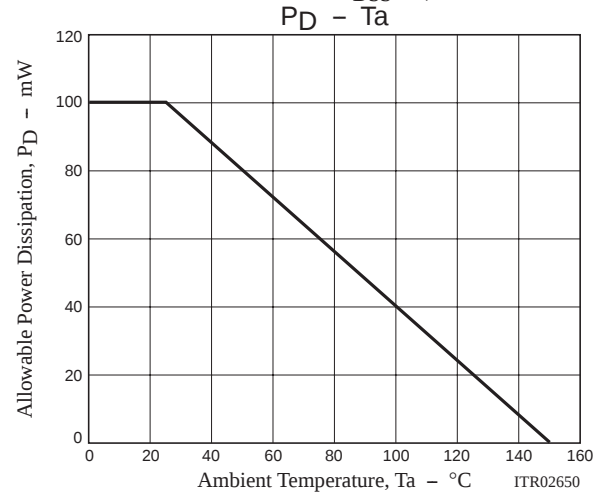
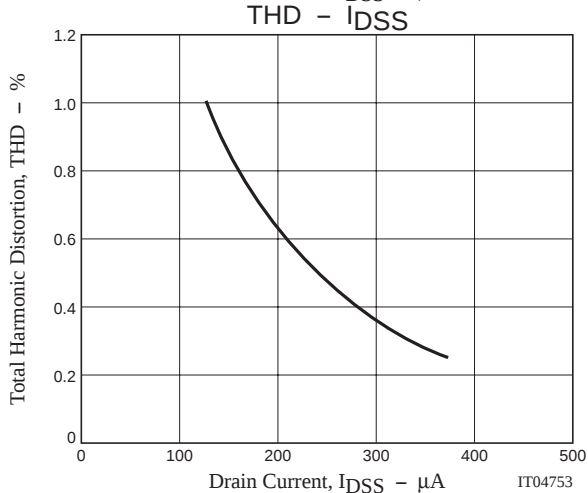
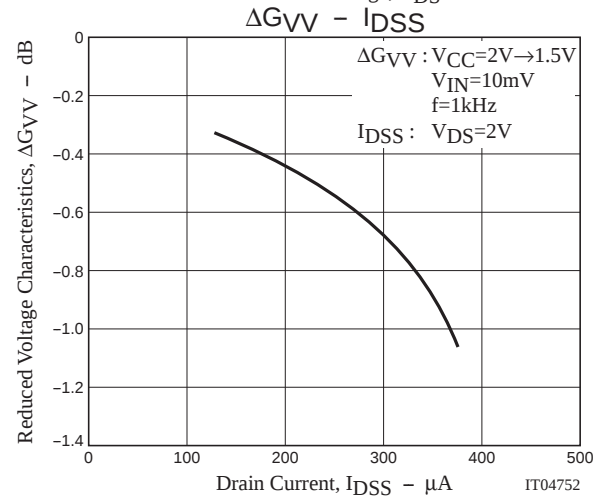
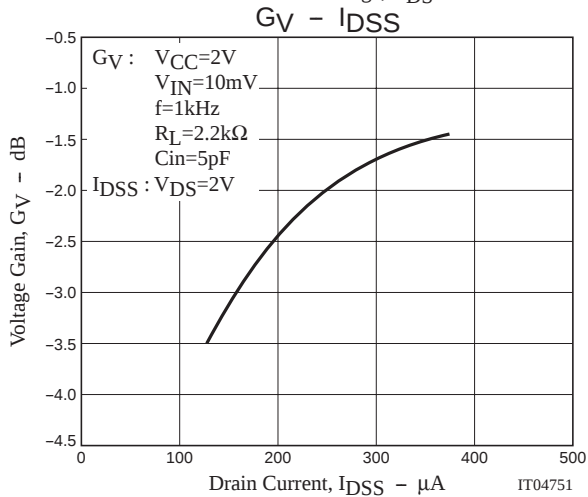
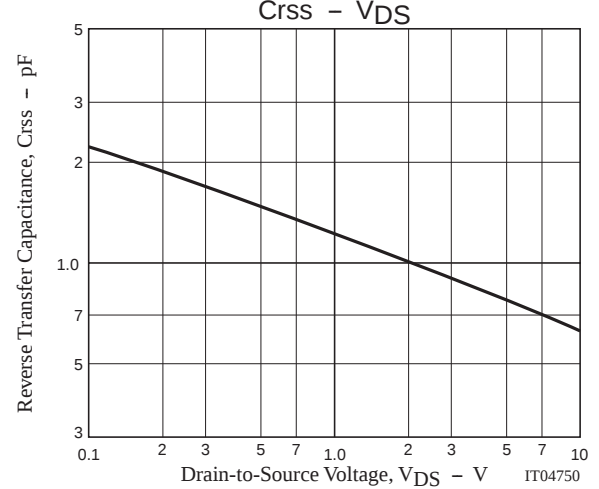
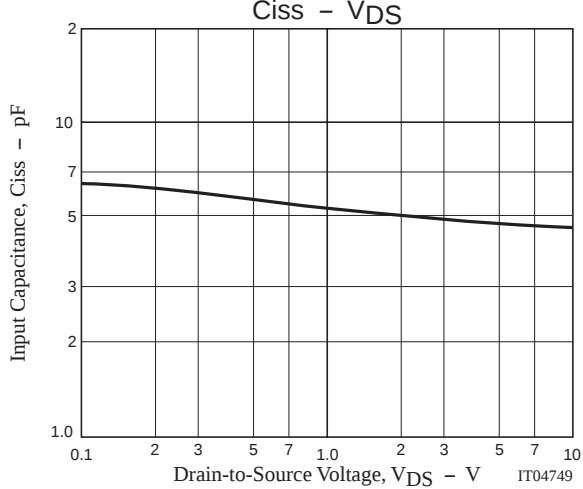
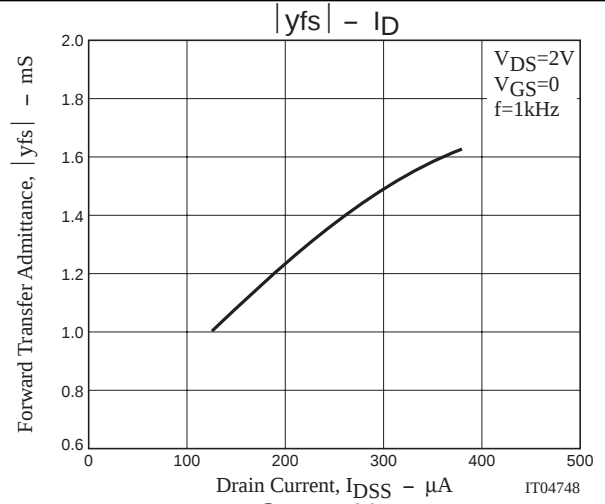
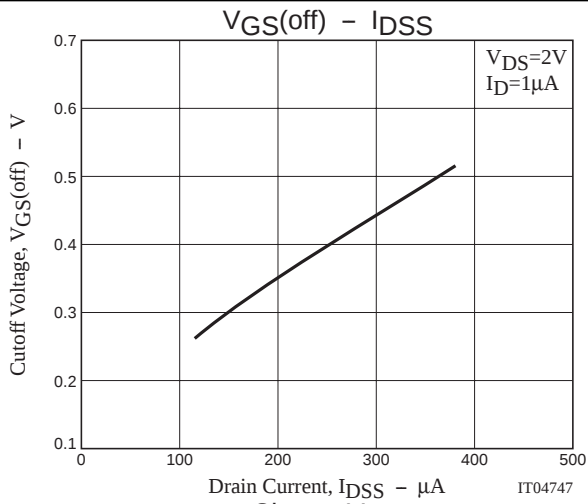
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[Ta=25°C, V _{CC} =2.0V, R _L =2.2kΩ, C _{in} =5pF, See specified Test Circuit.]						
Voltage Gain	G _V	f=1kHz, V _I N=10mV		-2.0		dB
Reduced Voltage Characteristics	ΔG _V V	f=1kHz, V _I N=10mV, V _{CC} =2→1.5V		-0.6	-2.0	dB
Frequency Characteristics	ΔG _V f	f=1kHz to 110Hz			-1.0	dB
Total Harmonic Distortion	THD	f=1kHz, V _I N=30mV		0.7		%
Output Noise Voltage	V _{NO}	V _I N=0, A curve			-102	dB

Test Circuit

Voltage gain
Frequency Characteristics
Distortion
Reduced Voltage Characteristics





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