



# TND731E4 — P-Channel Silicon MOSFET

## Electret Condenser Microphone Applications

### Features

- Ultrasmall package permitting applied sets to be small and slim.
- Especially suited for use in electret condenser microphone for audio equipments and telephones.
- Excellent voltage characteristics.
- Excellent noise characteristics.

### Specifications

#### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Input Voltage	V <sub>IN</sub>		-1 to 1	V
Output Voltage	V <sub>OUT</sub>		0.5 to 7	V
Allowable Power Dissipation	P <sub>D</sub>		100	mW
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C
Operating Temperature	T <sub>opr</sub>		0 to +70	°C

#### Electrical Characteristics at Ta=25°C

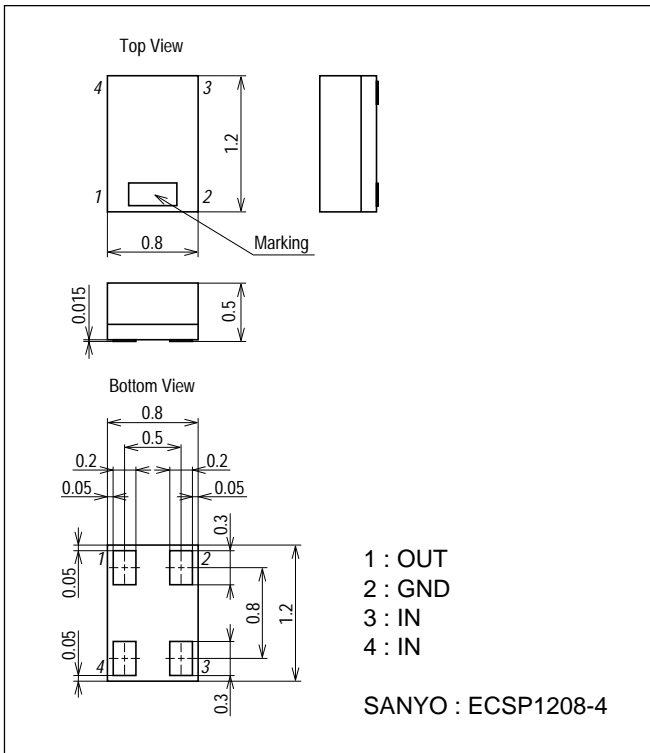
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Supply Voltage	V <sub>DD</sub>		1.5		5	V
Input Capacitance	C <sub>iss</sub>	V <sub>DD</sub> =2V, f=1MHz		3		pF
Consumption Current	I <sub>DD</sub>	V <sub>IN</sub> =0, V <sub>DD</sub> =2V, R <sub>L</sub> =15kΩ		60	90	μA
[Ta=25°C, V <sub>DD</sub> =2.0V, R <sub>L</sub> =15kΩ, C <sub>in</sub> =5pF, See specified Test Circuit.]						
Voltage Gain	G <sub>V</sub>	f=1kHz, V <sub>IN</sub> =10mV		-5		dB
Reduced Voltage Characteristics	ΔG <sub>VV</sub>	f=1kHz, V <sub>IN</sub> =10mV, V <sub>CC</sub> =2.0→1.5V		-0.3		dB
Frequency Characteristics	ΔG <sub>Vf</sub>	f=1kHz→110Hz		0		dB
Total Harmonic Distortion	THD	f=1kHz, V <sub>IN</sub> =30mV		0.1		%
Output Noise Voltage	V <sub>NO</sub>	V <sub>IN</sub> =0, A curve		-113		dB

Marking : AT

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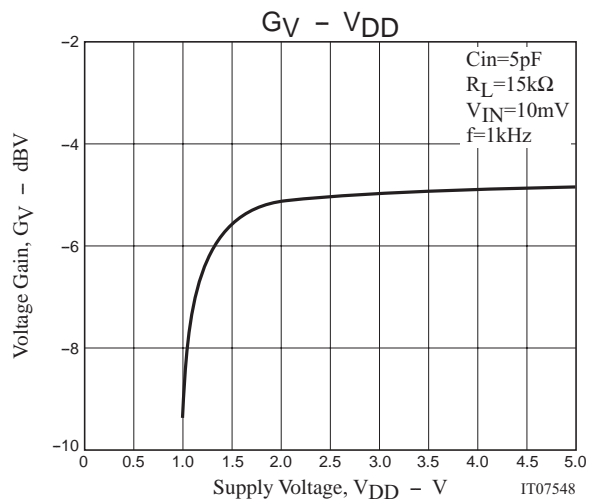
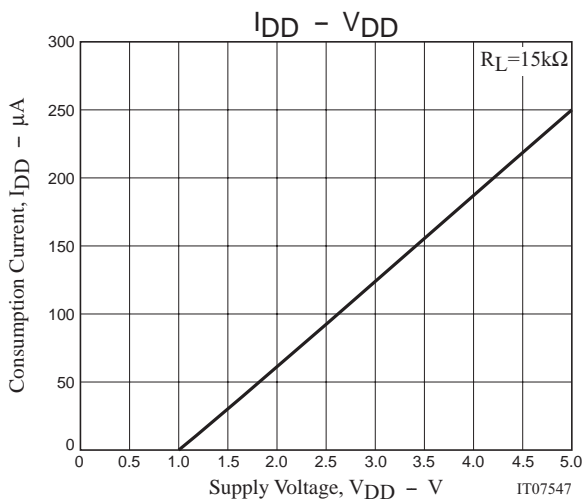
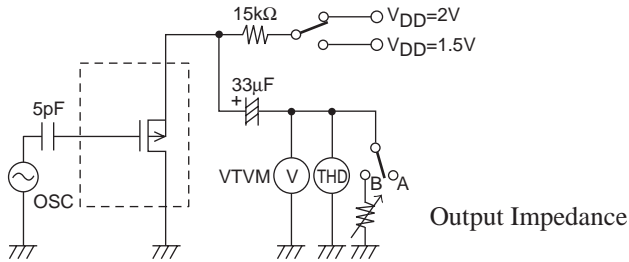
**Package Dimensions**

unit : mm  
2235

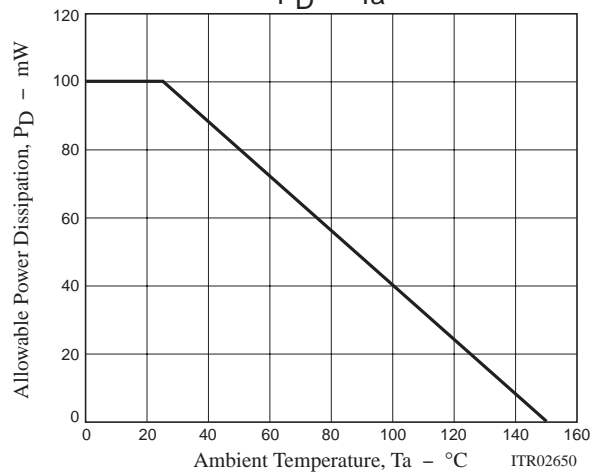
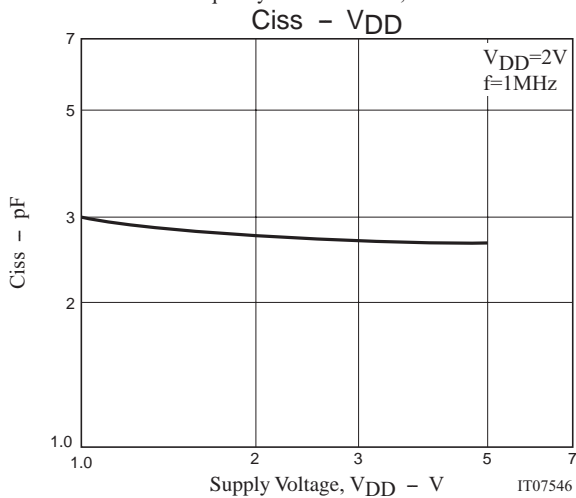
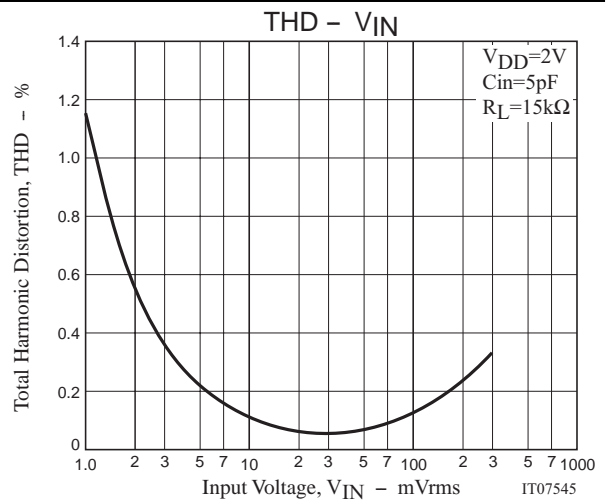
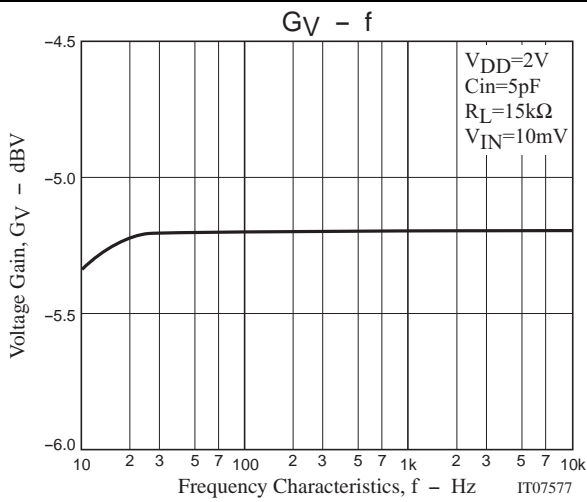


**Test Circuit**

- Voltage gain
- Frequency Characteristics
- Distortion
- Reduced Voltage Characteristics



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