

2034

N-Channel Junction Silicon FET

T-29-25

# Capacitor Microphone Applications

©2215

## Features

- Especially suited for use in audio, telephone capacitor microphones
- Excellent voltage characteristic
- Excellent transient characteristic
- Adoption of FBET process

## Absolute Maximum Ratings at Ta=25°C

			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	$T_J$	125	°C
Storage Temperature	$T_{stg}$	-55 to +125	°C

## Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Gate to Drain Breakdown Voltage	$V_{(BR)GDO}$	$I_G = -100\mu A$	-20			V
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5V, I_D = 1\mu A$	-0.6	-1.5		V
Drain Current	$I_{DSS}$	$V_{DS} = 5V, V_{GS} = 0$	100*		800*	$\mu A$
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 5V, V_{GS} = 0, f = 1kHz$	0.4	1.2		mS
Input Capacitance	$C_{iss}$	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$		3.5		pF
Output Capacitance	$C_{rss}$	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$		0.65		pF

\*: The 2SK596 is classified by  $I_{DSS}$  as follows (unit:  $\mu A$ ):

100 A	170	150 B	240	210 C	350	320 D	480	440 E	800
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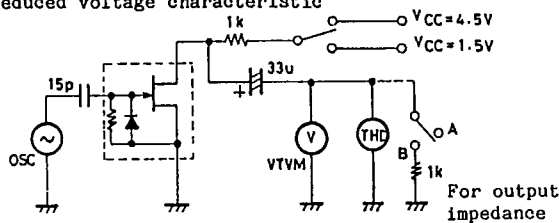
[Ta=25°C,  $V_{CC} = 4.5V, R_L = 1k\Omega, C_{in} = 15pF$ , See specified Test Circuit.]

			min	typ	max	unit
Voltage Gain	$G_V$	$V_{in} = 10mV, f = 1kHz$		-3.0		dB
Reduced Voltage Characteristic	$\Delta G_V$	$V_{in} = 10mV, f = 1kHz$		-1.2	-3.5	dB
Frequency Characteristic	$\Delta G_{VF}$	$V_{CC} = 4.5 \rightarrow 1.5V$ $f = 1kHz \text{ to } 110Hz$			-1.0	dB

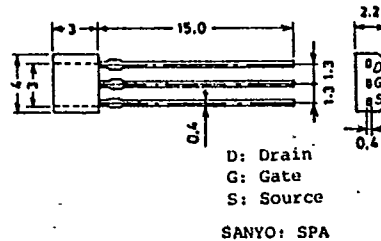
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## Specified Test Circuit

- Voltage gain
- Frequency characteristic
- Distortion
- Reduced voltage characteristic



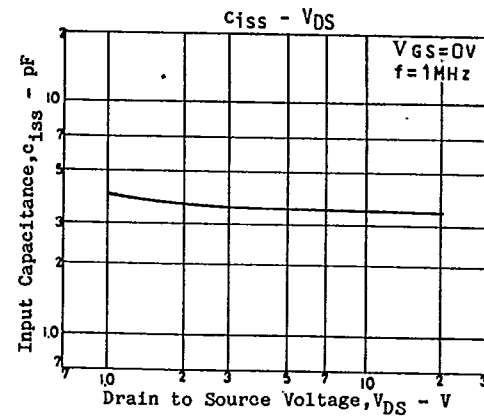
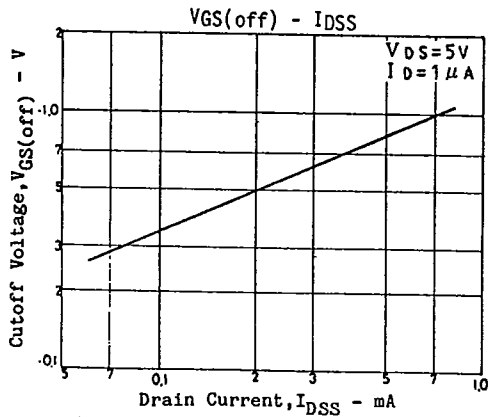
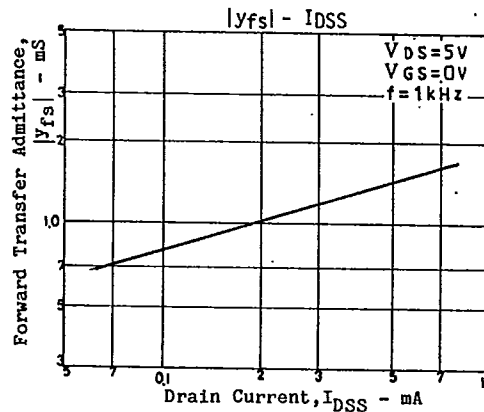
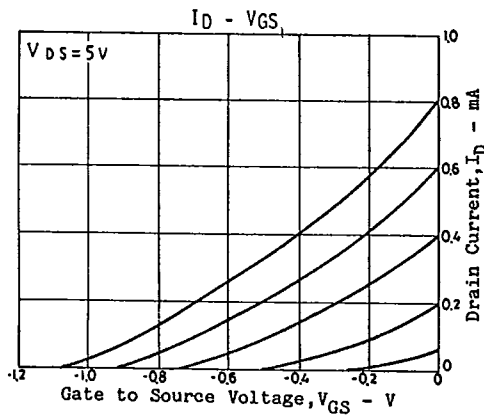
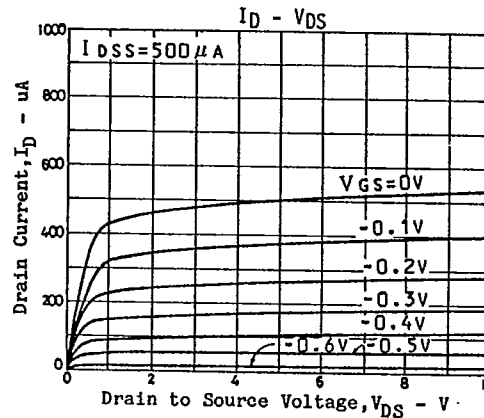
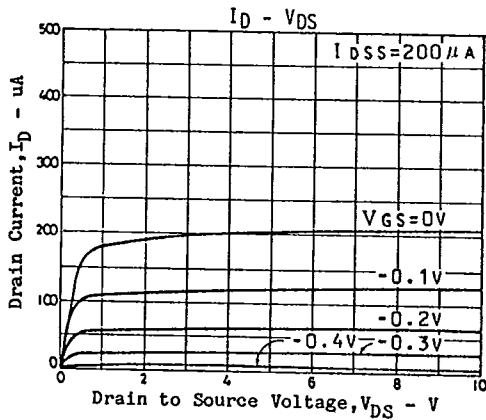
## Case Outline 2034 (unit:mm)

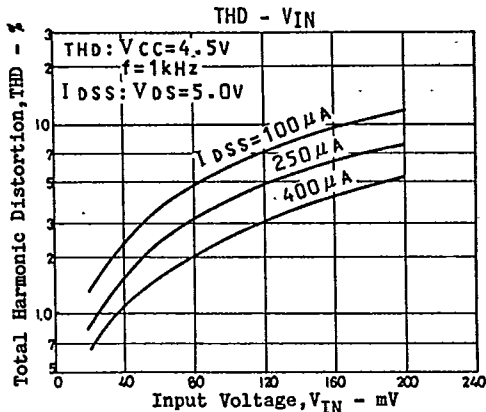
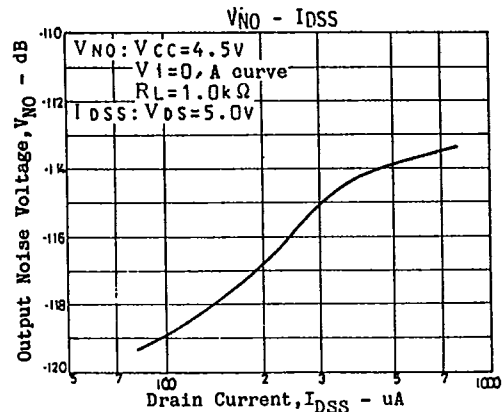
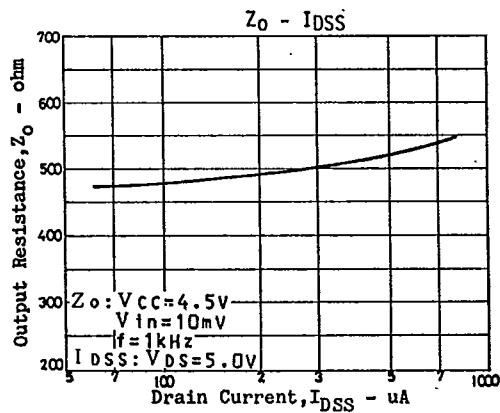
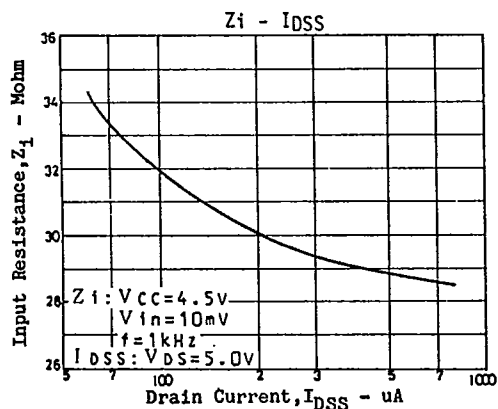
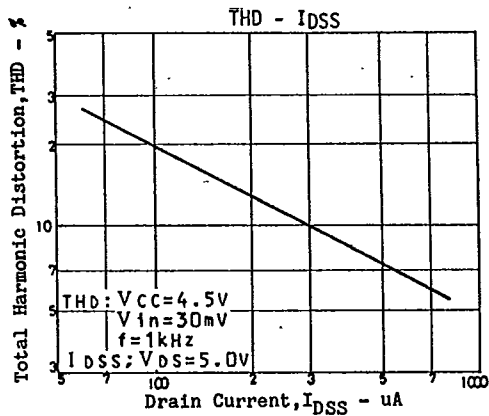
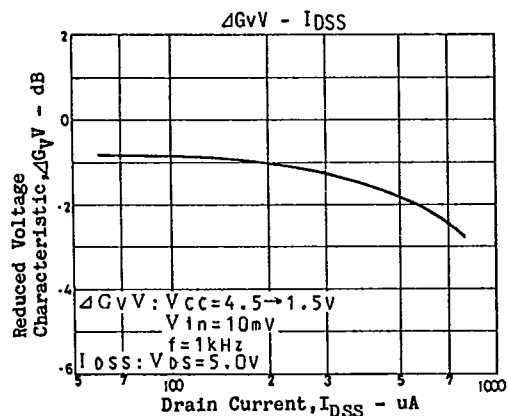
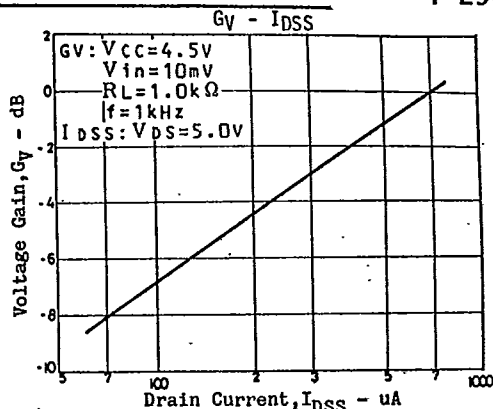
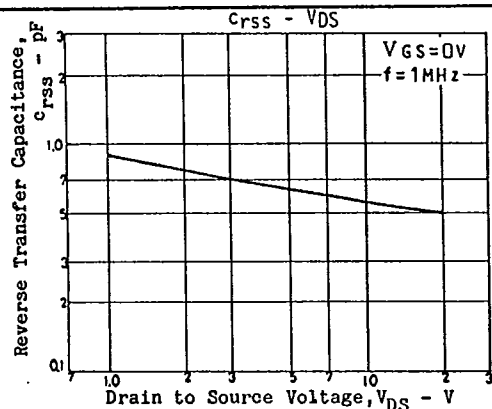


D: Drain  
G: Gate  
S: Source  
SANYO: SPA

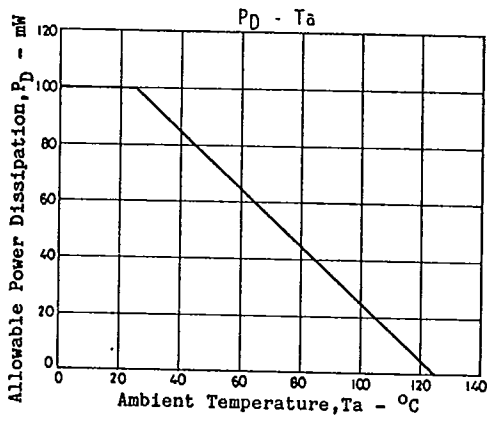
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			min	typ	max	unit
Input Resistance	$Z_{in}$	$f=1\text{kHz}$		25		Mohm
Output Resistance	$Z_o$	$f=1\text{kHz}$			700	ohm
Total Harmonic Distortion	THD	$V_{in}=30\text{mV}, f=1\text{kHz}$		1.0		%
Output Noise Voltage	$V_{NO}$	$V_{in}=0, A \text{ curve}$			-110	dB





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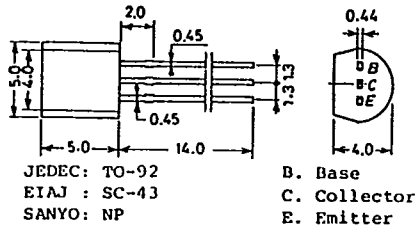


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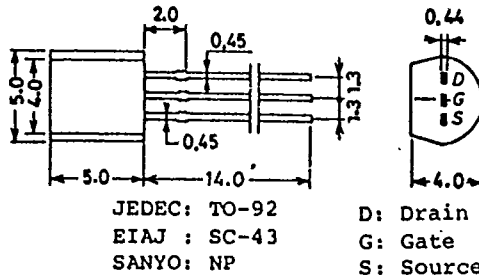
# CASE OUTLINES OF LEAD FORMED SMALL SIGNAL TRANSISTORS

- All of Sanyo lead formed small signal transistor case outlines are illustrated below.
- All dimensions are in mm, and dimensions which are not followed by min. or max. are represented by typical values.
- No marking is indicated.

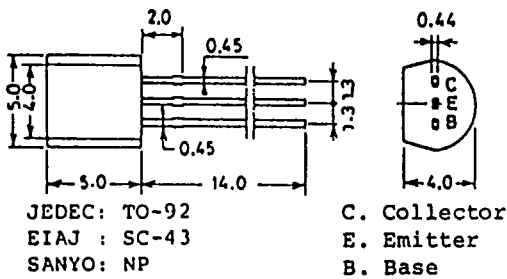
Case Outline-[2003A] unit: mm



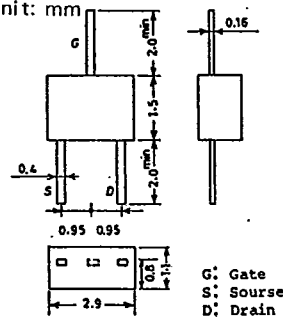
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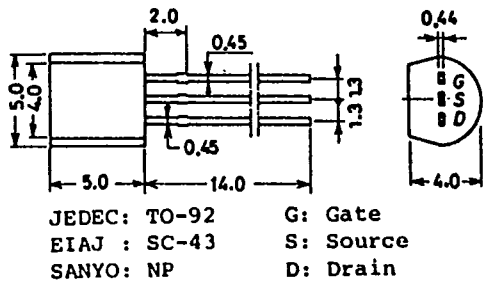
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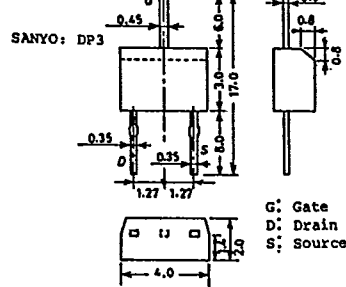
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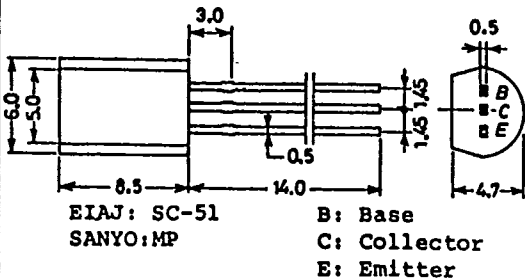
Case Outline-[2005A] unit: mm



Case Outline-[2026] unit: mm



Case Outline-[2006A] unit: mm



Case Outline-[2027A] unit: mm

