

2SK596

2034

T-29-25

N-Channel Junction Silicon FET

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 $T_a=25^\circ\text{C}$

			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	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

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

*: The 2SK596 is classified by I_{DSS} as follows (unit: μA):

100	A	170	150	B	240	210	C	350	320	D	480	440	E	800
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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.]

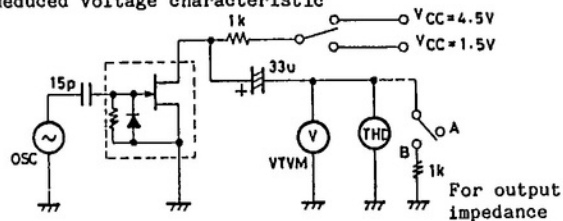
			min	typ	max	unit
Voltage Gain	G_V	$V_{in}=10\text{mV}, f=1\text{kHz}$	-3.0			dB
Reduced Voltage Characteristic	ΔG_V	$V_{in}=10\text{mV}, f=1\text{kHz}$	-1.2	-3.5		dB
Frequency Characteristic	ΔG_{VF}	$V_{CC}=4.5 \rightarrow 1.5\text{V}$ $f=1\text{kHz to } 110\text{Hz}$		-1.0		dB

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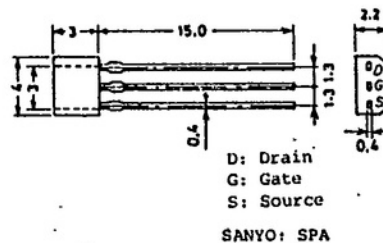
Specified Test Circuit

Voltage gain
Frequency characteristic
Distortion

Reduced voltage characteristic

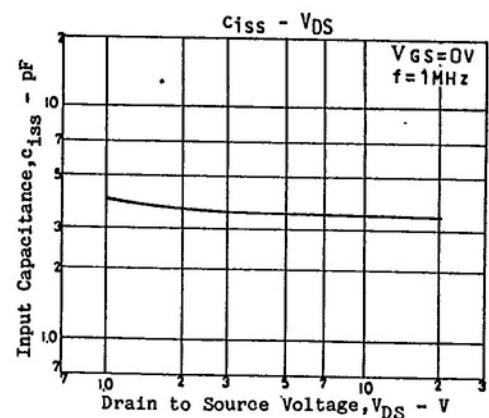
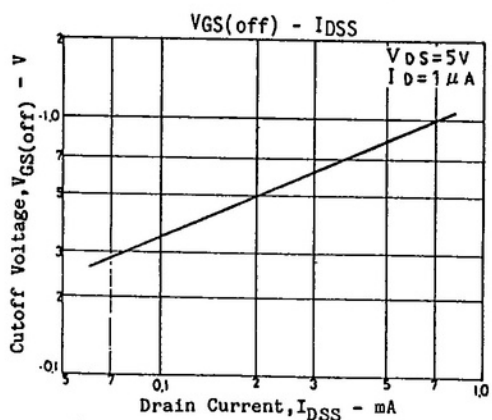
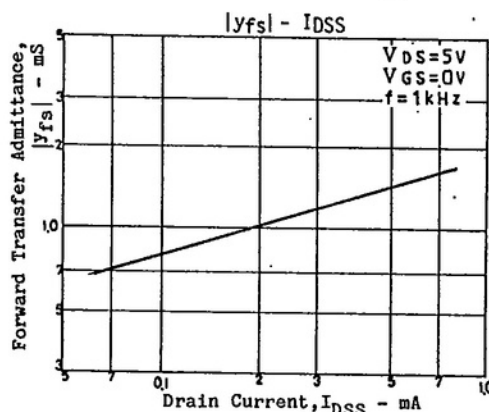
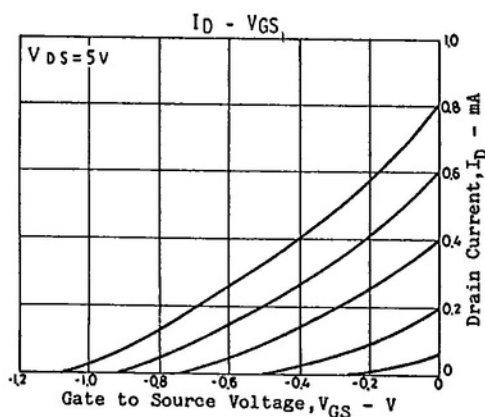
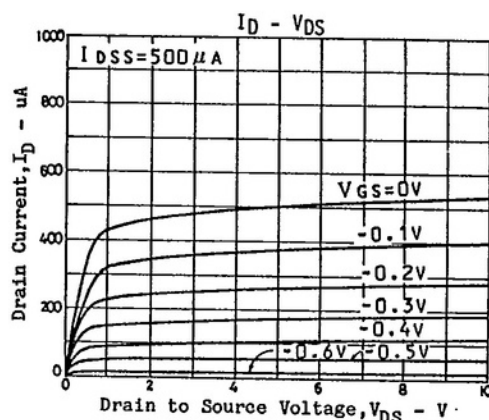
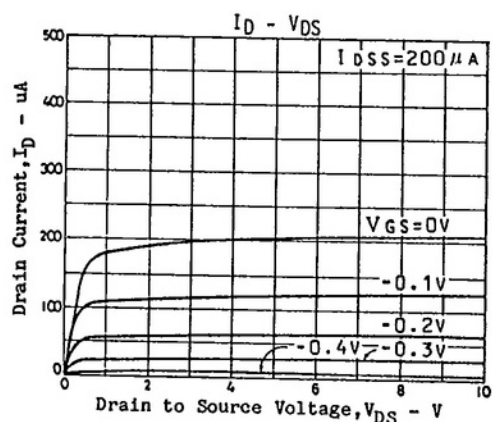


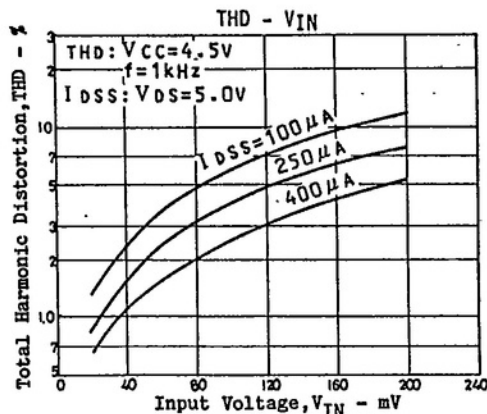
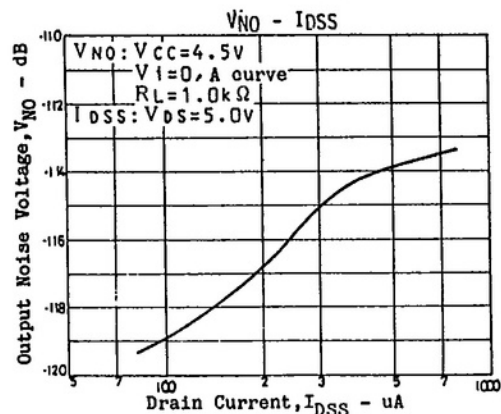
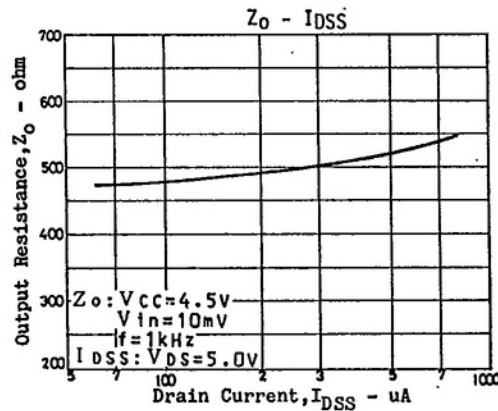
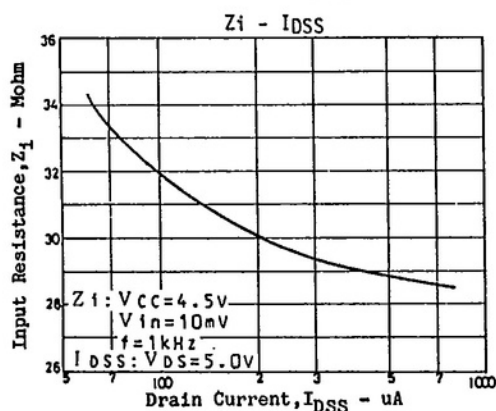
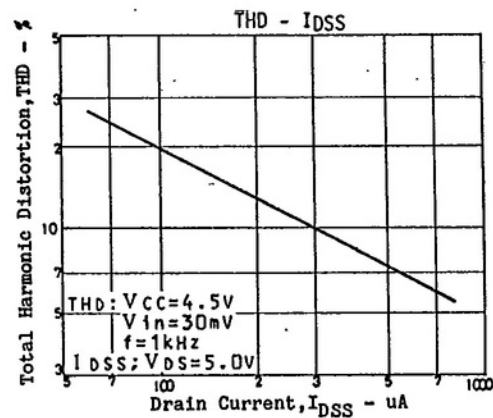
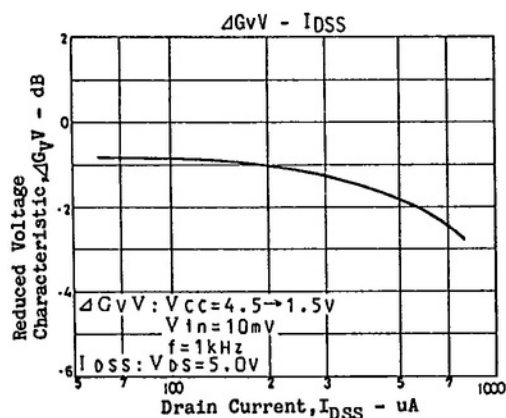
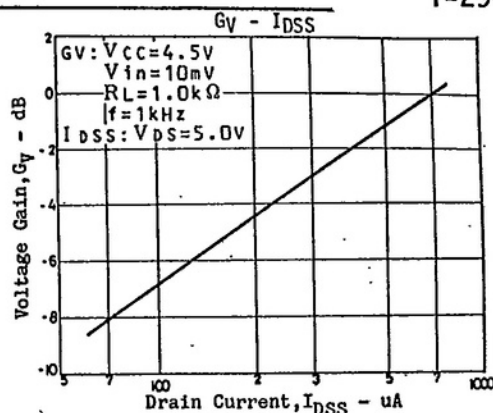
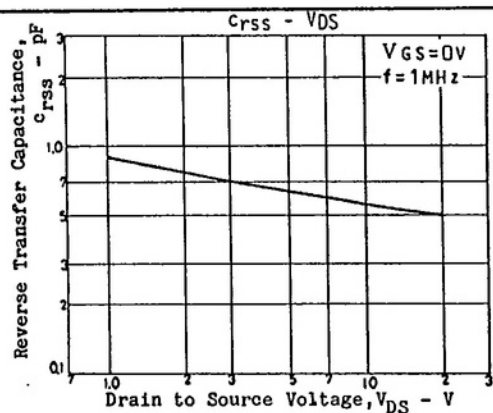
Case Outline 2034 (unit:mm)



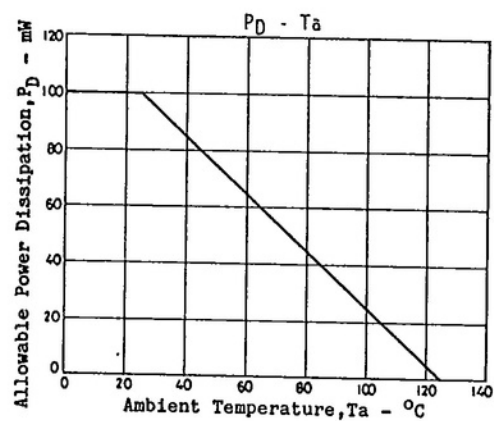
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Input Resistance	Z_{in}	$f=1\text{kHz}$	min	typ	max	unit
Output Resistance	Z_o	$f=1\text{kHz}$	25			Mohm
Total Harmonic Distortion	THD	$V_{in}=30\text{mV}, f=1\text{kHz}$		1.0	700	ohm
Output Noise Voltage	V_{NO}	$V_{in}=0, A \text{ curve}$			-110	dB





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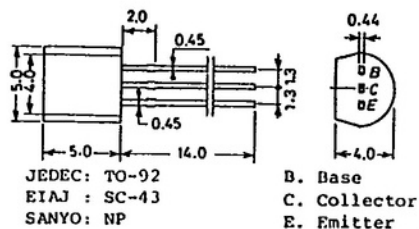


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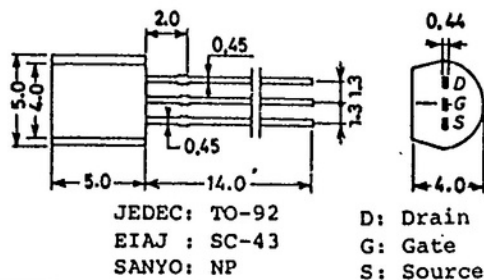
CASE OUTLINES OF LEAD FORMED SMALL SIGNAL TRANSISTORS

- 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.

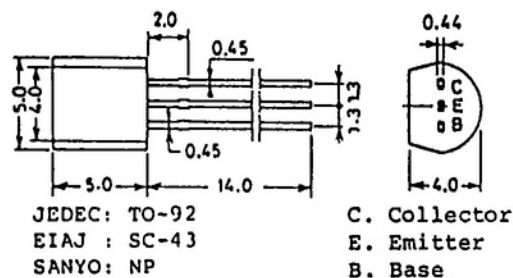
Case Outline—[2003A] unit: mm



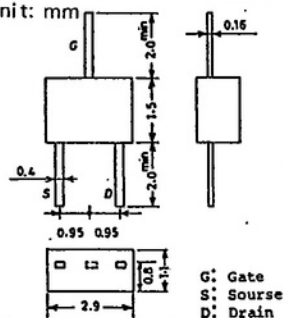
Case Outline—[2019A] unit: mm



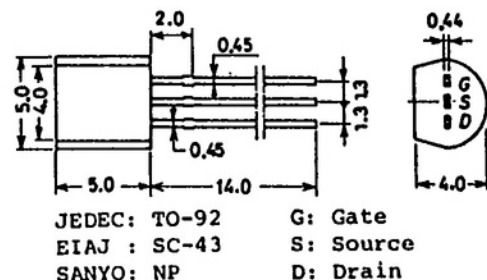
Case Outline—[2004A] unit: mm



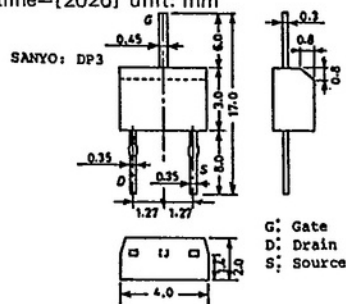
Case Outline—[2025] unit: mm



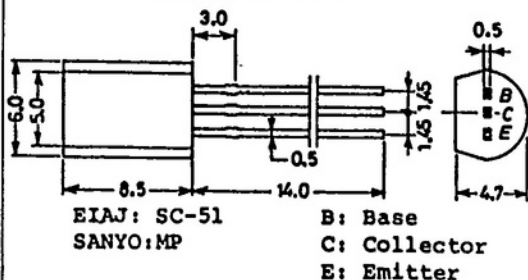
Case Outline—[2005A] unit: mm



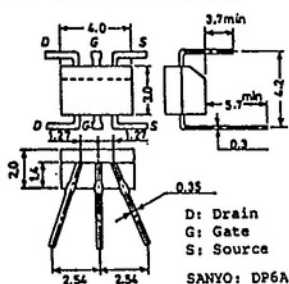
Case Outline—[2026] unit: mm



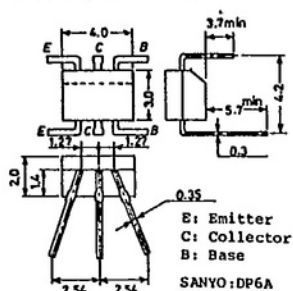
Case Outline—[2006A] unit: mm



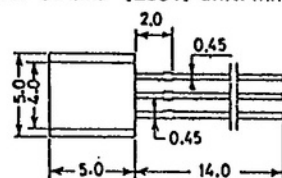
Case Outline—[2027A] unit: mm



Case Outline—[2029A] unit: mm



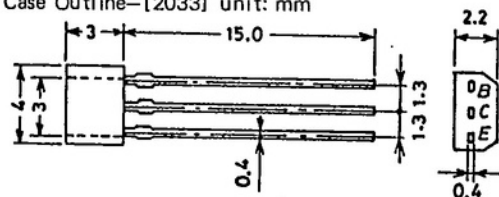
Case Outline—[2061] unit: mm



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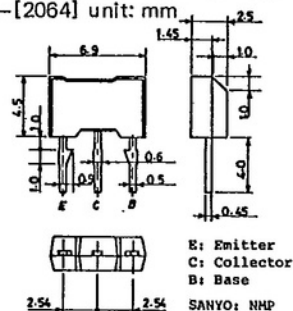
C: Collector
B: Base
E: Emitter
SANYO: NP

Case Outline—[2033] unit: mm



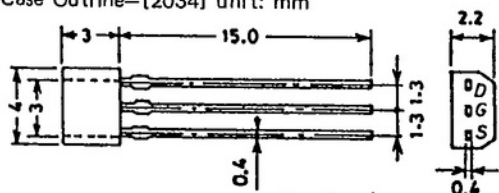
B: Base
C: Collector
E: Emitter
SANYO: SPA

Case Outline—[2064] unit: mm



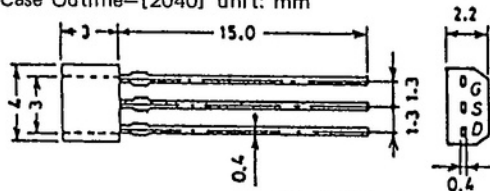
E: Emitter
C: Collector
B: Base
SANYO: NMP

Case Outline—[2034] unit: mm



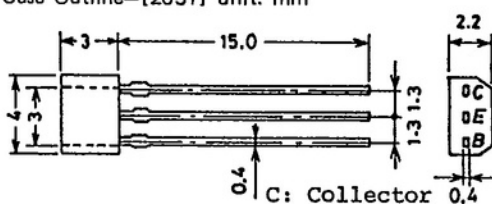
D: Drain
G: Gate
S: Source
SANYO: SPA

Case Outline—[2040] unit: mm



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

Case Outline—[2051] unit: mm



C: Collector
E: Emitter
B: Base
SANYO: SPA