2SK596

T-29-25

2034

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 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	Tj	125	°C
Storage Temperature	Tstg	-55 to +125	°C

Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Gate to Drain Breakdown Voltage	$V_{(BR)GDO}$	I_G=-100uA	-20			V
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=5V,I_D=1uA		-0.6	-1.5	V
Drain Current	I_{DSS}	V_{DS}=5V,V_{GS}=0	100*		800*	uA
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:uA):

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

[Ta=25°C,V_{CC}=4.5V,R_L=1kohm,Cin=15pF,See specified Test Circuit.]

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

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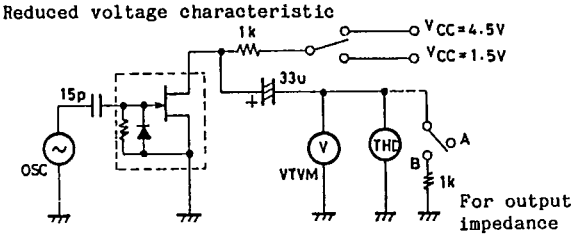
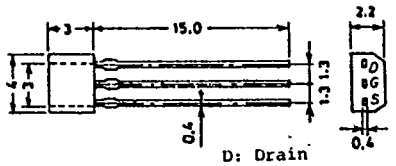
Specified Test Circuit

Voltage gain
Frequency characteristic
Distortion
Reduced voltage characteristic



Case Outline 2034
(unit:mm)

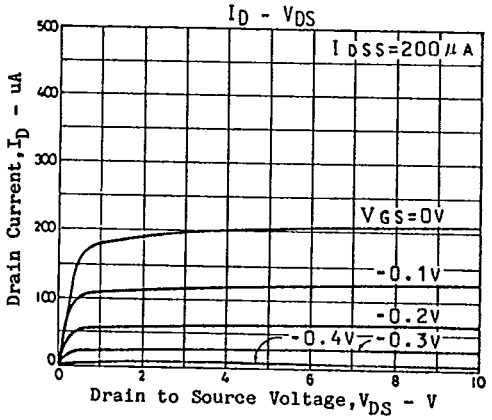


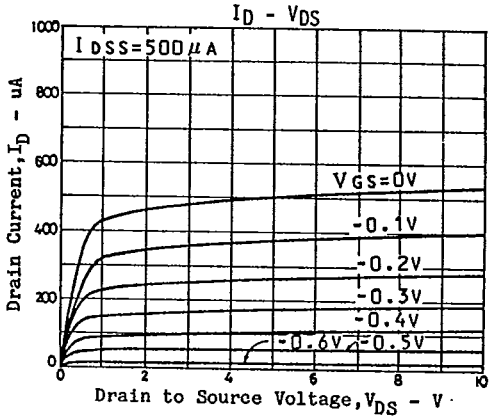
D: Drain
G: Gate
S: Source

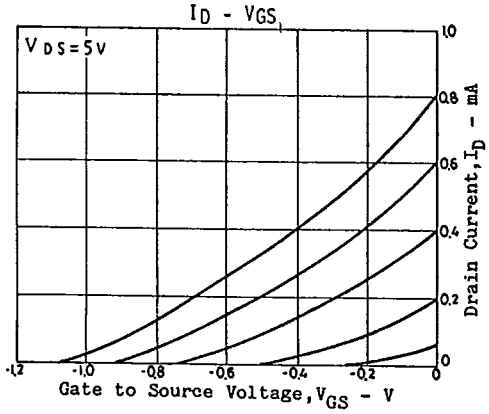
SANYO: SPA

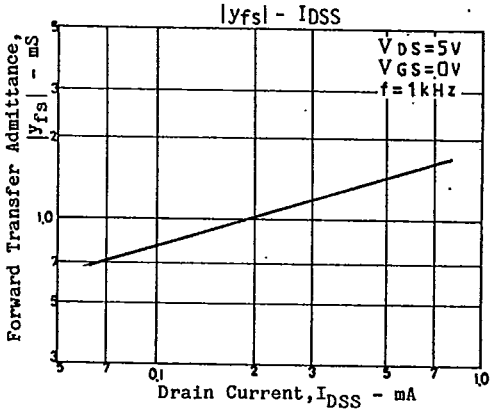
Continued form preceding page.

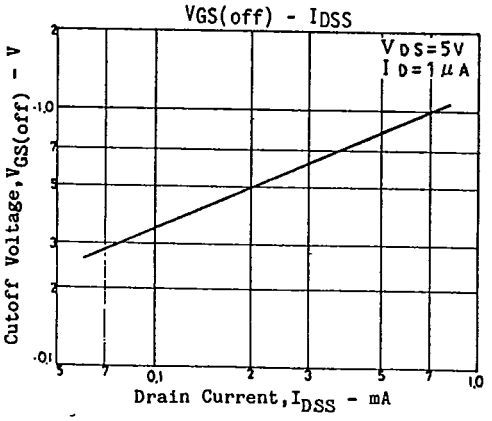
			min	typ	max	unit
Input Resistance	Z_{in}	f=1kHz	25			Mohm
Output Resistance	Z_o	f=1kHz			700	ohm
Total Harmonic Distortion	THD	V_{in}=30mV,f=1kHz		1.0		%
Output Noise Voltage	V_{NO}	V_{in}=0,A curve			-110	dB

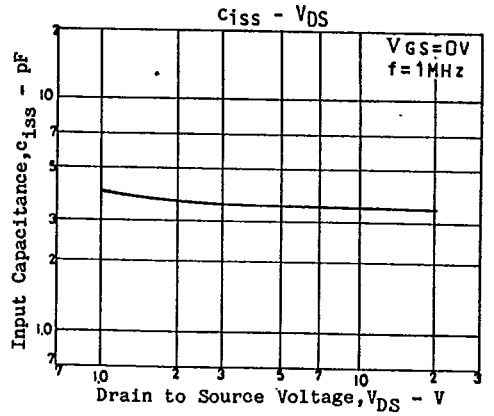












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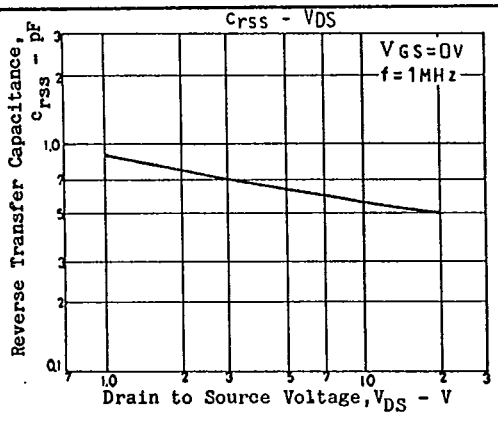
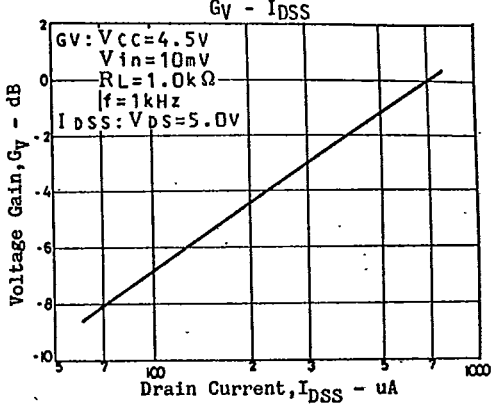
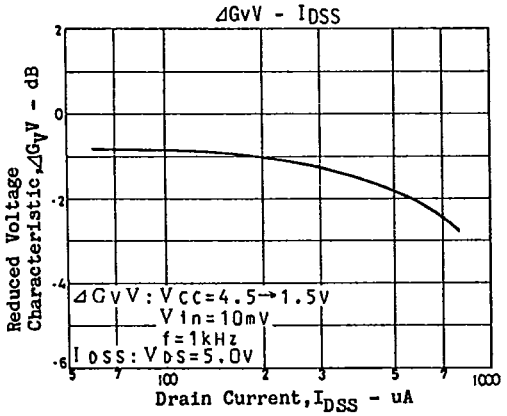
C_{rss} - V_{DS}



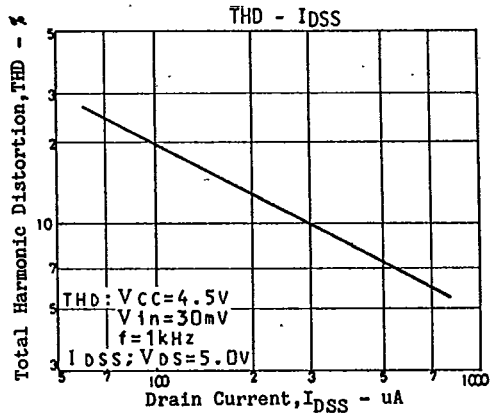
G_V - I_{DSS}



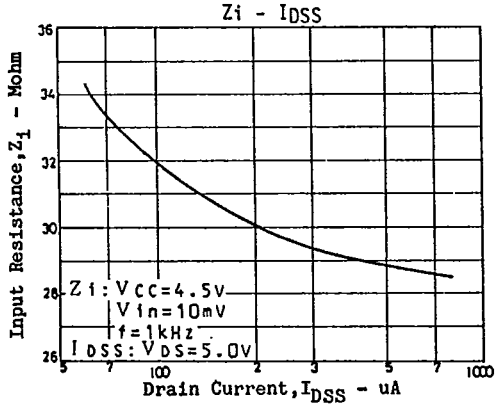
$\Delta G_V V$ - I_{DSS}



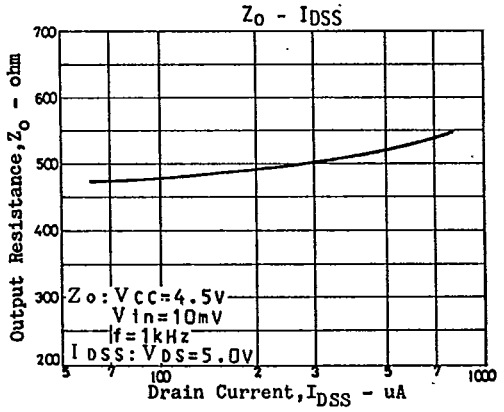
THD - I_{DSS}



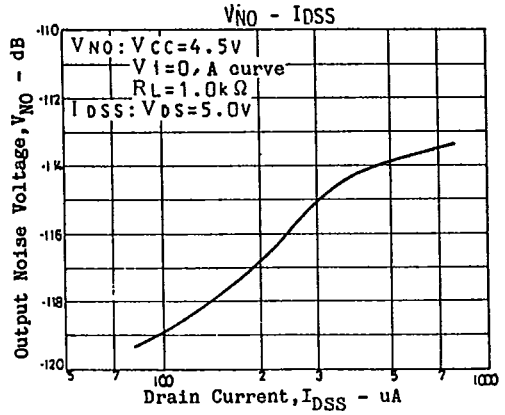
Zi - I_{DSS}



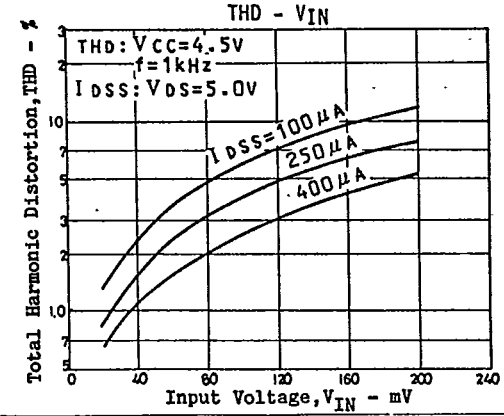
Z_o - I_{DSS}



V_{NO} - I_{DSS}



THD - V_{IN}



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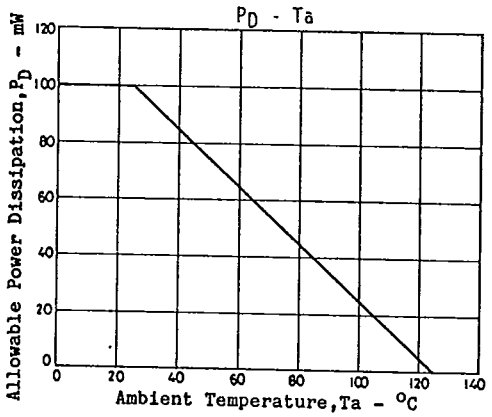
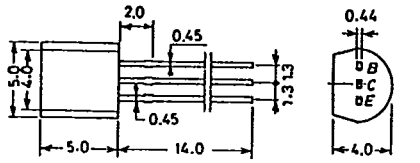

PD - Ta
Allowable Power Dissipation, PD - mW
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
Ambient Temperature, Ta - °C

T-91-20

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.

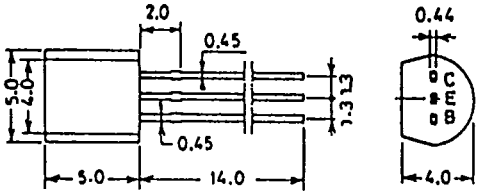
Case Outline—[2003A] unit: mm



JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

B. Base
C. Collector
E. Emitter

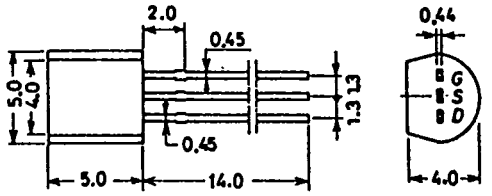
Case Outline—[2004A] unit: mm



JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

C. Collector
E. Emitter
B. Base

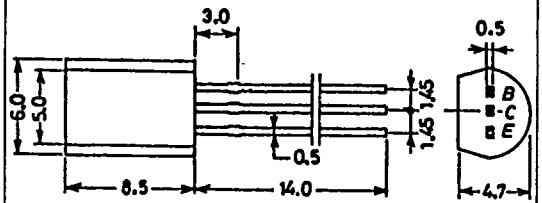
Case Outline—[2005A] unit: mm



JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

G: Gate
S: Source
D: Drain

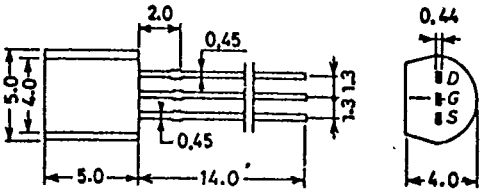
Case Outline—[2006A] unit: mm



EIAJ: SC-51
SANYO:MP

B: Base
C: Collector
E: Emitter

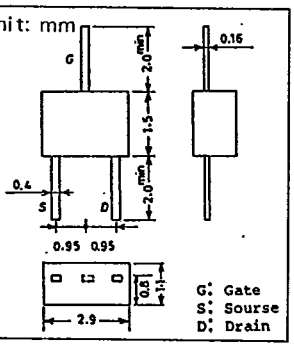
Case Outline—[2019A] unit: mm



JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

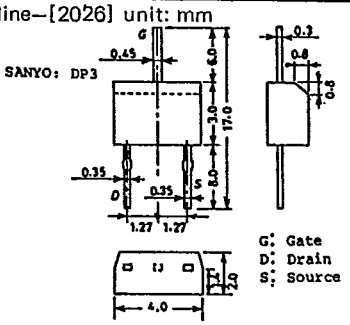
D: Drain
G: Gate
S: Source

Case Outline—[2025] unit: mm



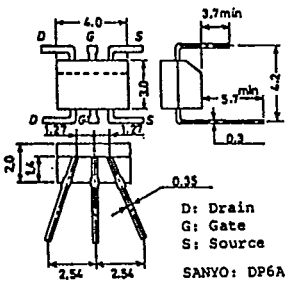
G: Gate
S: Sourse
D: Drain

Case Outline—[2026] unit: mm



G: Gate
D: Drain
S: Source

Case Outline—[2027A] unit: mm



D: Drain
G: Gate
S: Source

SANYO: DP6A

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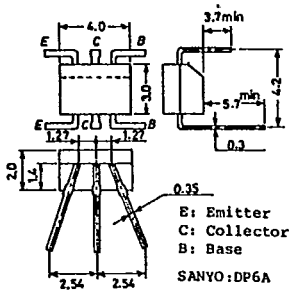
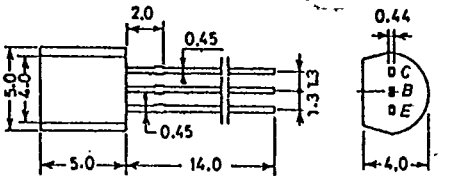
Case Outline—[2029A] unit: mm



E: Emitter
C: Collector
B: Base
SANYO:DP6A

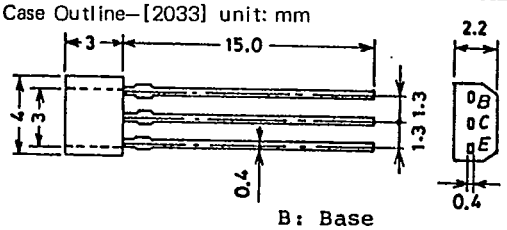
Case Outline—[2061] unit: mm



JEDEC: TO-92
EIAJ : SC-43

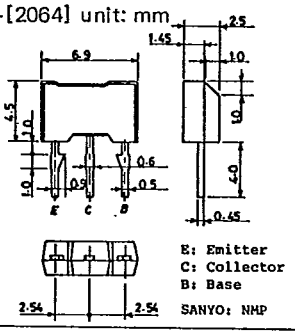
C: Collector
B: Base
E: Emitter
SANYO: NP

Case Outline—[2033] unit: mm



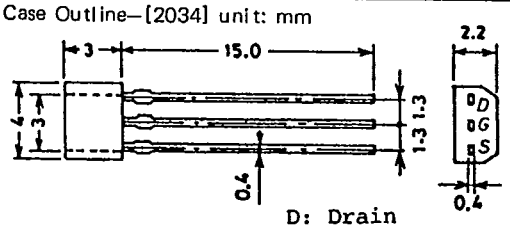
B: Base
C: Collector
E: Emitter
SANYO: SPA

Case Outline—[2064] unit: mm



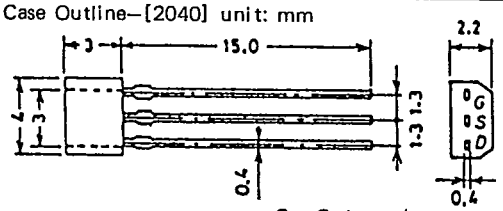
E: Emitter
C: Collector
B: Base
SANYO: NMP

Case Outline—[2034] unit: mm



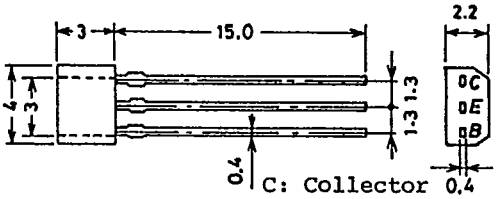
D: Drain
G: Gate
S: Source
SANYO: SPA

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