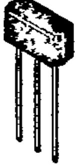
2SK596



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 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	$\lvert y_{fs}\rvert$	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

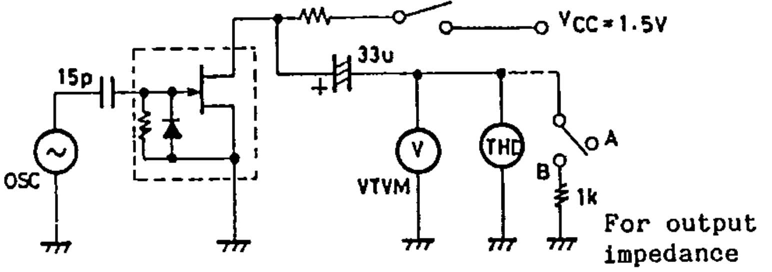
[Ta=25°C, V_{CC}=4.5V, R_L=1kohm, Cin=15pF, See specified Test Circuit.]

			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

Continued on next page.

Specified Test Circuit

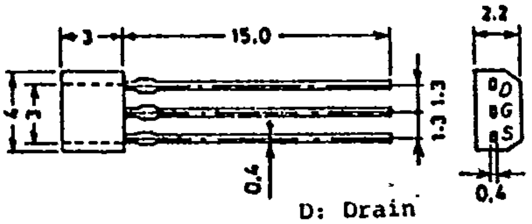
Voltage gain
Frequency characteristic
Distortion
Reduced voltage characteristic



For output impedance

Case Outline 2034

(unit:mm)



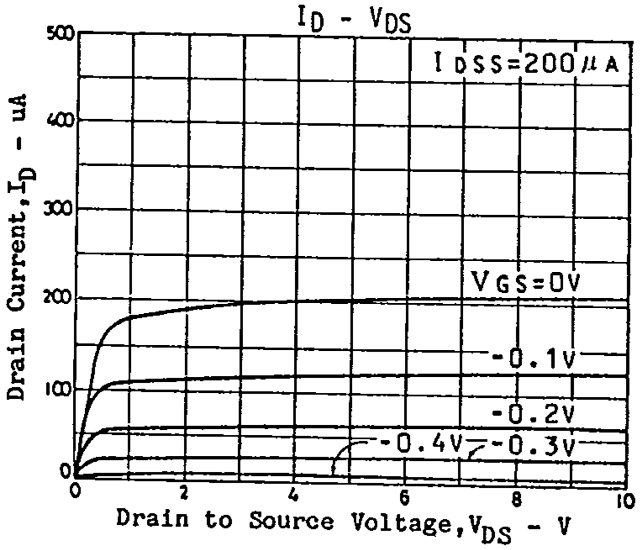
D: Drain
G: Gate
S: Source

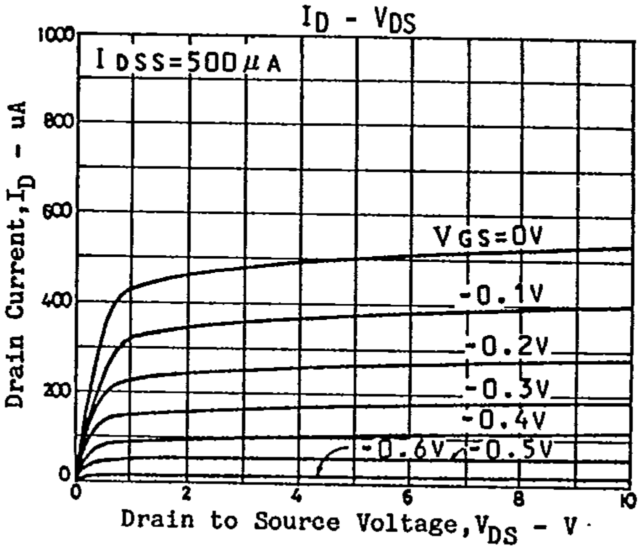
SANYO: SPA

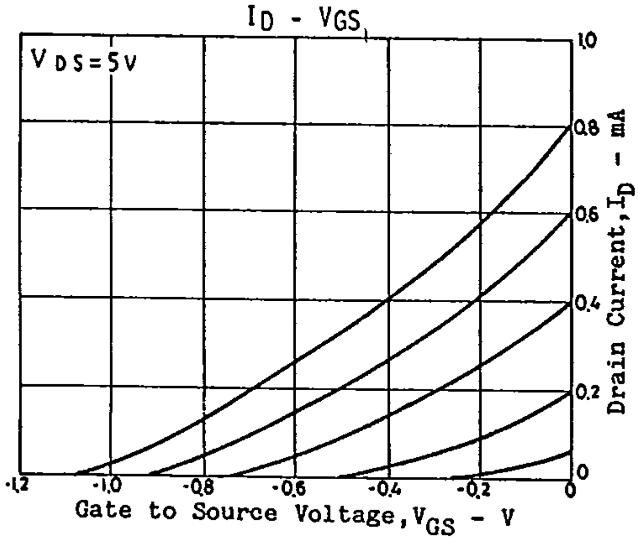
T-29-25

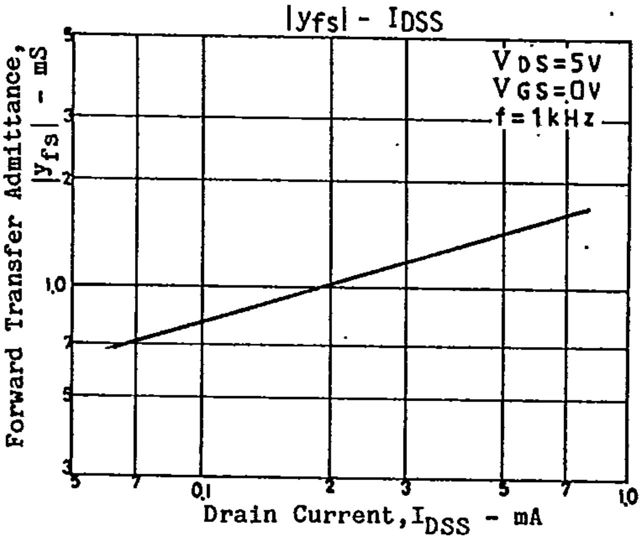
Continued form preceding page.

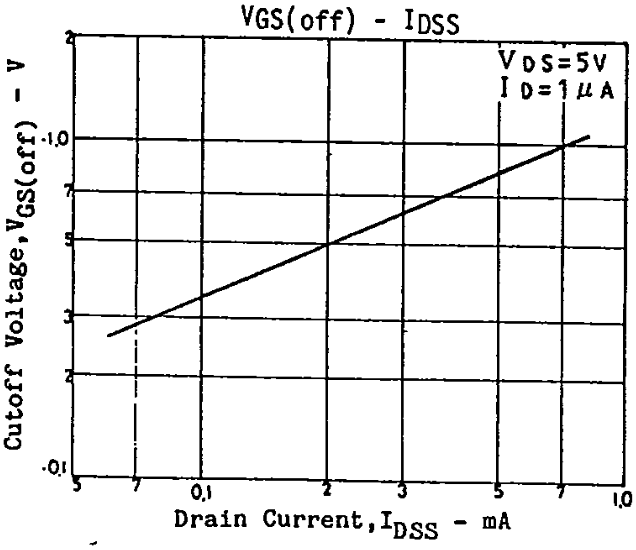
			min	typ	max	unit
Input Resistance	Z_{in}	f=1kHz	25			Mohm
Output Resistance	Z_o	f=1kHz			700	ohm
Total Harmonic Distortion	THD	V_{in}=30mV,f=1kHz		1.0		%
Output Noise Voltage	V_{NO}	V_{in}=0,A curve			-110	dB

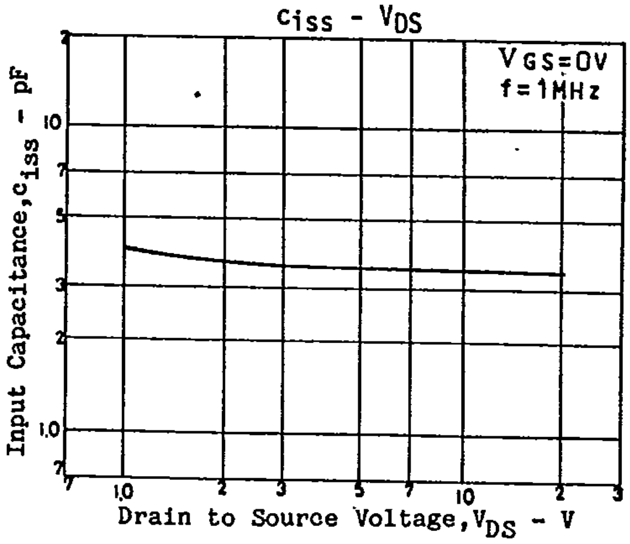

I_D - V_{DS}


I_D - V_{DS}

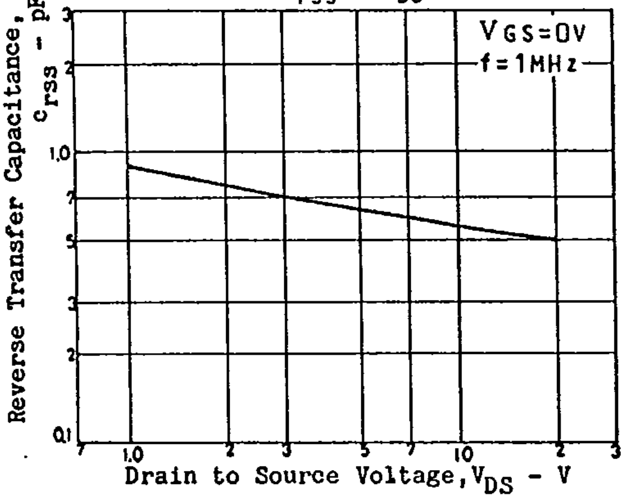

I_D - V_{GS}


|yfs| - IDSS

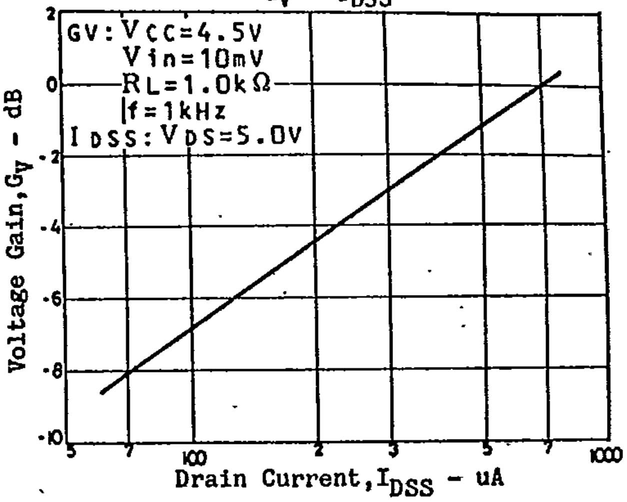

VGS(off) - IDSS


Ciss - V_{DS}

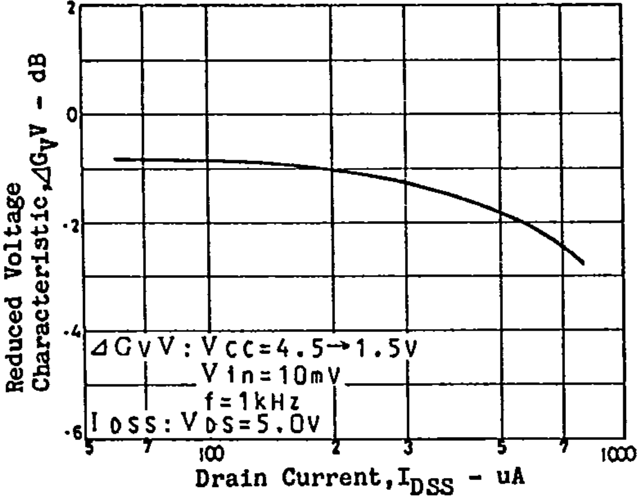
Crss - VDS



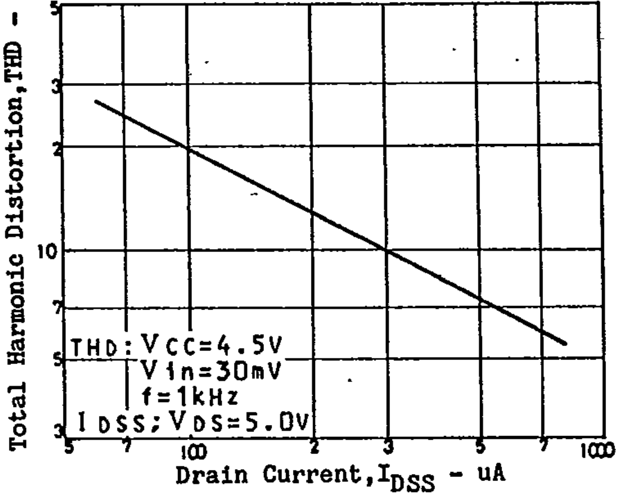
GV - IDSS



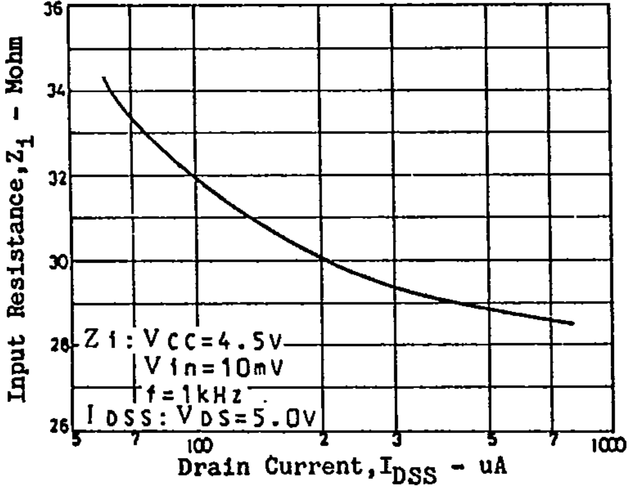
ΔGvV - IDSS



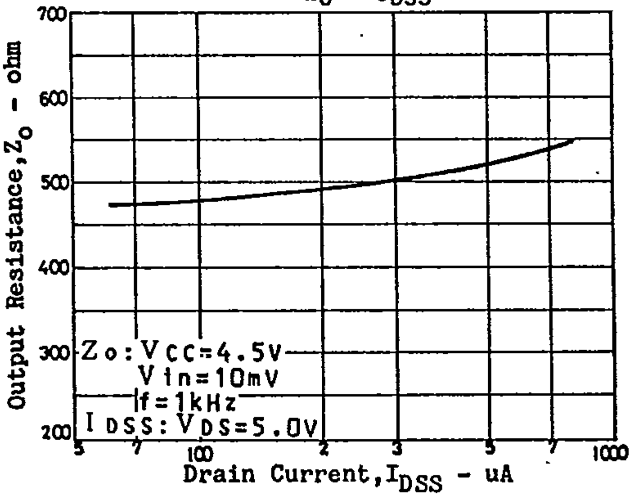
THD - IDSS



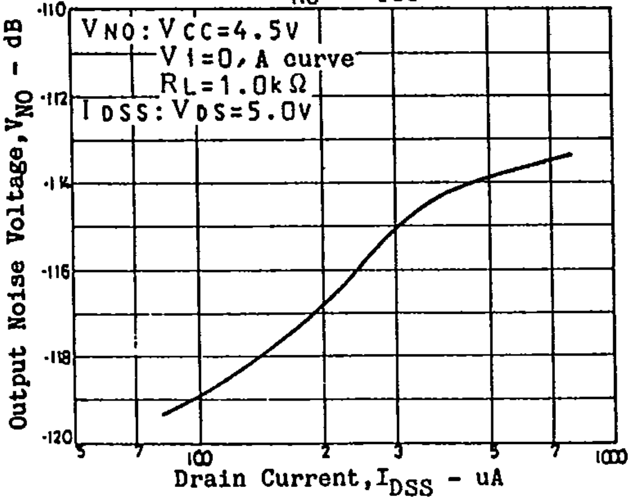
Zi - IDSS



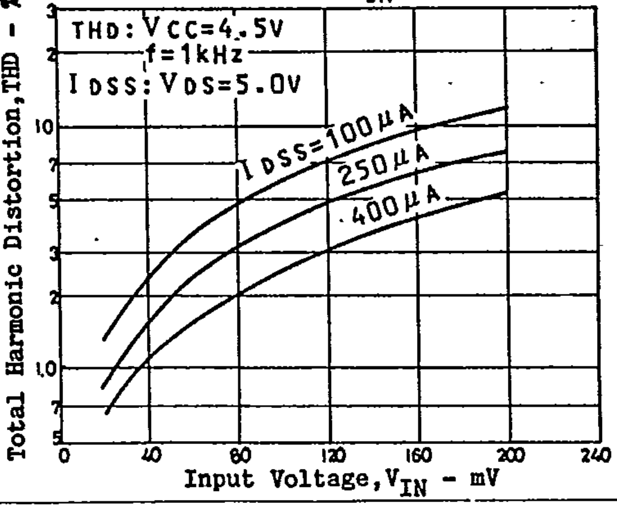
Zo - IDSS

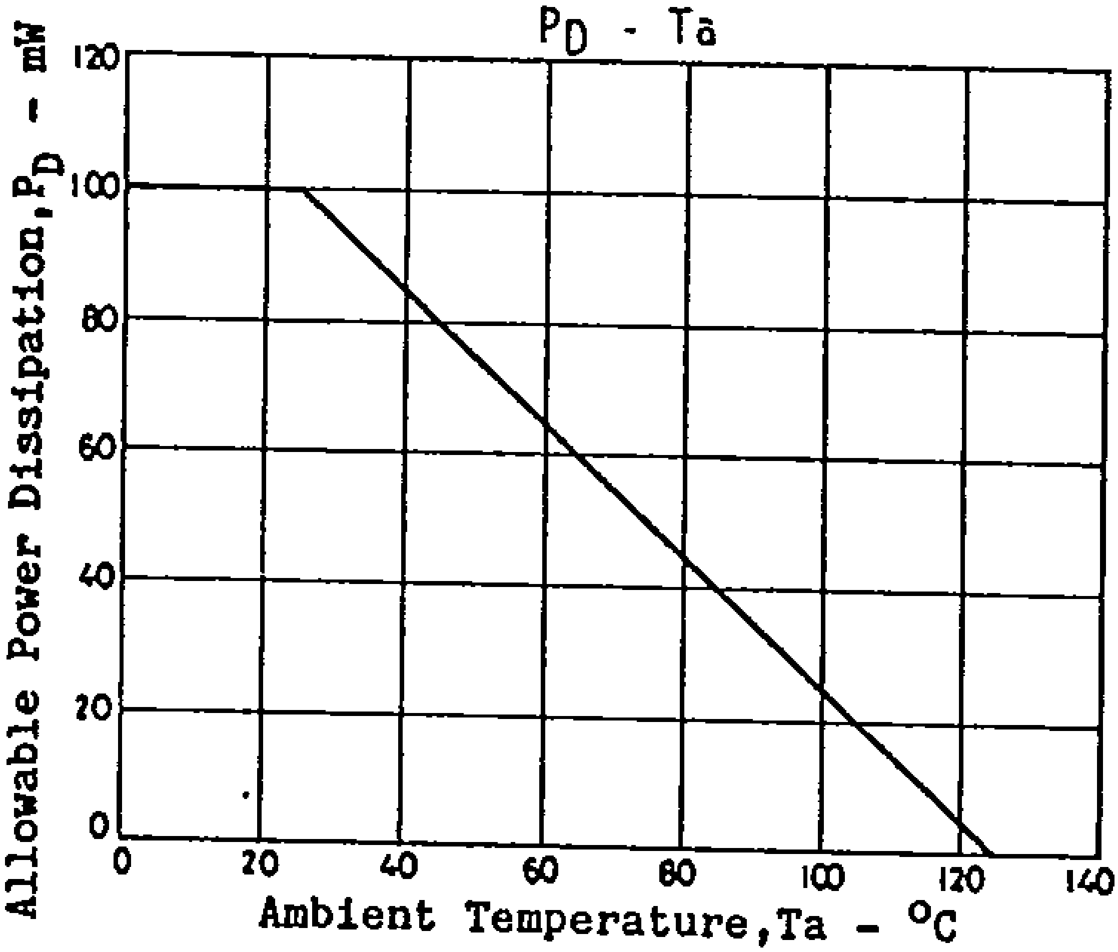


VNO - IDSS



THD - VIN



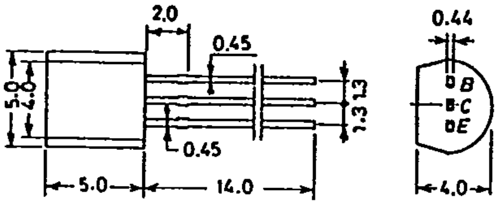

P_D - Ta
Allowable Power Dissipation, P_D - mW
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
Ambient Temperature, Ta - °C

11-20

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.

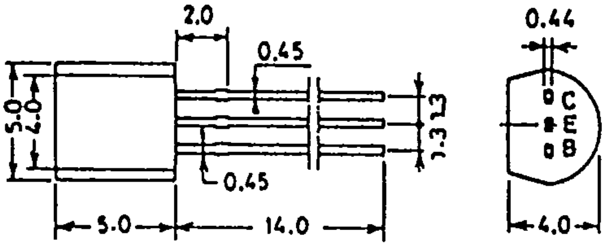
Case Outline–[2003A] unit: mm



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

B. Base
C. Collector
E. Emitter

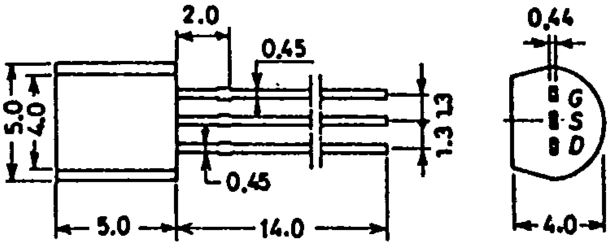
Case Outline–[2004A] unit: mm



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

C. Collector
E. Emitter
B. Base

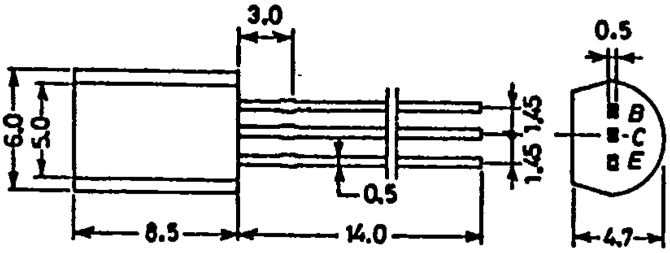
Case Outline–[2005A] unit: mm



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

G: Gate
S: Source
D: Drain

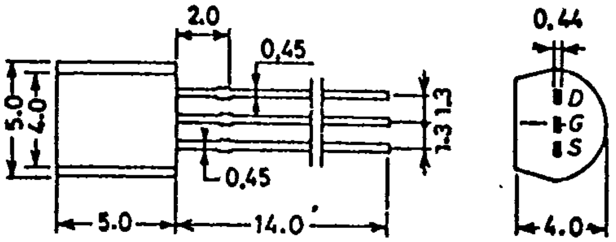
Case Outline–[2006A] unit: mm



EIAJ: SC-51
SANYO: MP

B: Base
C: Collector
E: Emitter

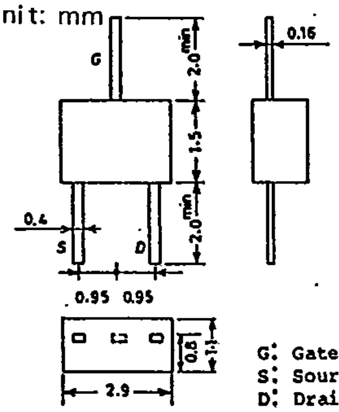
Case Outline–[2019A] unit: mm



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

D: Drain
G: Gate
S: Source

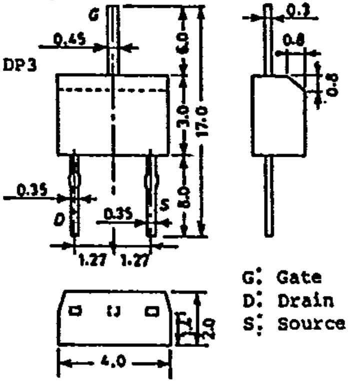
Case Outline–[2025] unit: mm



G: Gate
S: Sourse
D: Drain

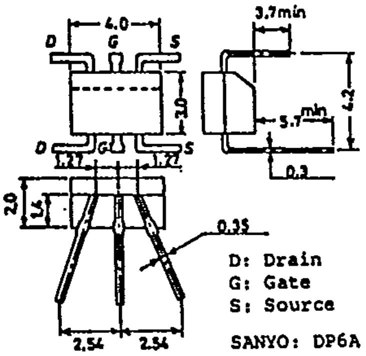
Case Outline–[2026] unit: mm

SANYO: DP3



G: Gate
D: Drain
S: Source

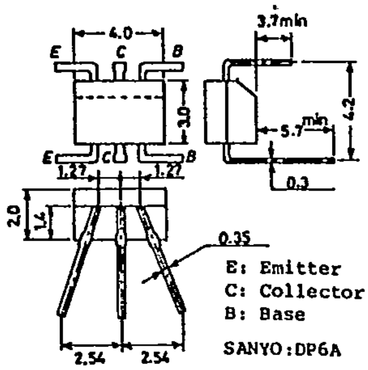
Case Outline–[2027A] unit: mm



D: Drain
G: Gate
S: Source

SANYO: DP6A

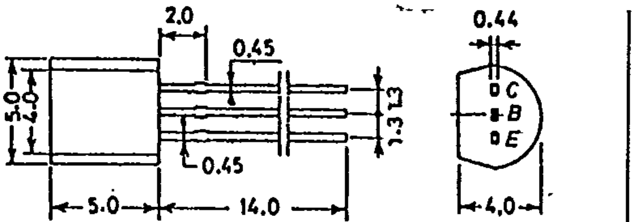
Case Outline—[2029A] unit: mm



E: Emitter
C: Collector
B: Base

SANYO:DP6A

Case Outline—[2061] unit: mm

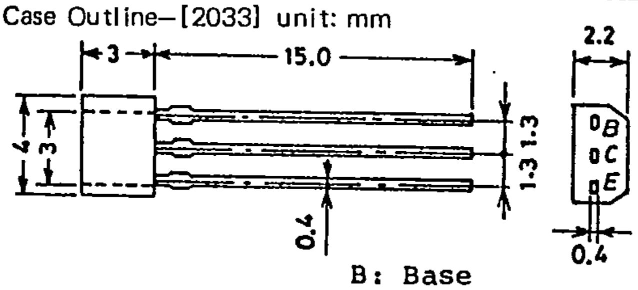


JEDEC: TO-92
EIAJ : SC-43

C: Collector
B: Base
E: Emitter

SANYO: NP

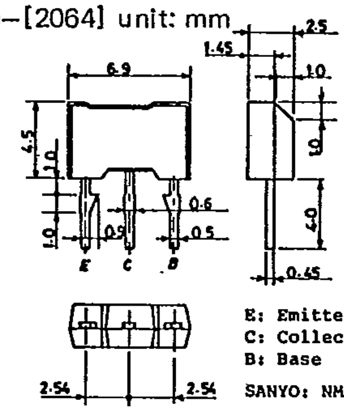
Case Outline—[2033] unit: mm



B: Base
C: Collector
E: Emitter

SANYO: SPA

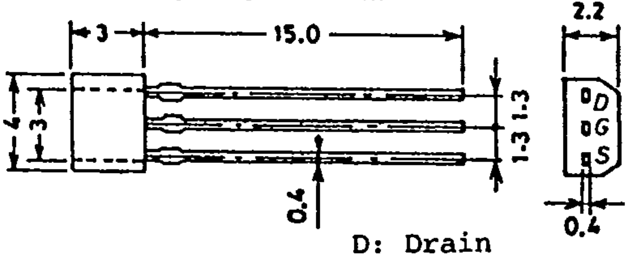
Case Outline—[2064] unit: mm



E: Emitter
C: Collector
B: Base

SANYO: NMP

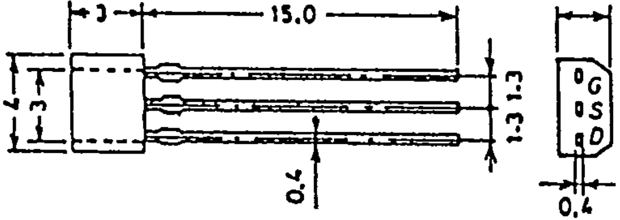
Case Outline—[2034] unit: mm



D: Drain
G: Gate
S: Source

SANYO: SPA

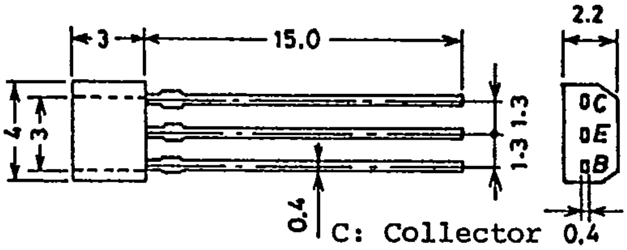
Case Outline—[2040] unit: mm



G: Gate
S: Source
D: Drain

SANYO: SPA

Case Outline—[2051] unit: mm



C: Collector
E: Emitter
B: Base

SANYO: SPA