

2SK315

2040

N-Channel Junction
Silicon Field-Effect Transistor

T-31-25

FM Tuner Applications

©1005B

Features

- Ideal for FM tuners in radios, stereos, etc.
- Because it is compactly packaged, sets can be made compact.
- Small c_{rss} ($c_{rss}=0.08\text{pF}$ typ).
- High y_{fs} ($y_{fs}=12.0\text{ms}$ typ).

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	20	mA
Allowable power dissipation	P_D	200	mW
Junction temperature	T_J	125	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

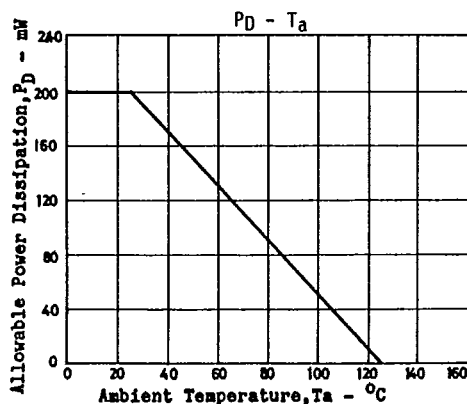
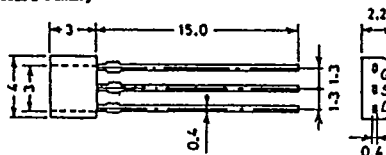
Electrical Characteristics at $T_a=25^\circ\text{C}$

			min	typ	max	unit
Gate to drain breakdown voltage	$V_{(BR)GDO}$	$I_G=-10\mu\text{A}$	-20			V
Gate cutoff current	I_{GSS}	$V_{GS}=-0.5\text{V}, V_{DS}=0\text{V}$			-10	nA
Drain current	I_{DSS}	$V_{DS}=5\text{V}, V_{GS}=0\text{V}$	2.5*		24.0*	mA
Cutoff voltage	$V_{GS(off)}$	$V_{DS}=5\text{V}, I_D=10\mu\text{A}$			-3.5	V
Forward transfer admittance	$ y_{fs} (1)$	$V_{DS}=5\text{V}, V_{GS}=0\text{V}, f=1\text{kHz}$	6.0	12.0		ms
Forward transfer admittance	$ y_{fs} (2)$	$V_{DS}=5\text{V}, V_{GS}=0\text{V}, f=100\text{MHz}$	6.0	12.0		ms
Input capacitance	c_{iss}	$V_{DS}=5\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$		8.0		pF
Reverse transfer capacitance	c_{rss}	$V_{DS}=5\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$		0.08	0.3	pF
Output capacitance	c_{oss}	$V_{DS}=5\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$		6.5		pF
Power gain	PG	$V_{DS}=5\text{V}, V_{GS}=0\text{V}, f=100\text{MHz}$		23		dB
Noise figure	NF	Refer to specified test circuit. $V_{DS}=5\text{V}, V_{GS}=0\text{V}, f=100\text{MHz}$		2.2	4.0	dB

See specified Test Circuit.

* The 2SK315 is graded as follows by I_{DSS} (unit: mA):

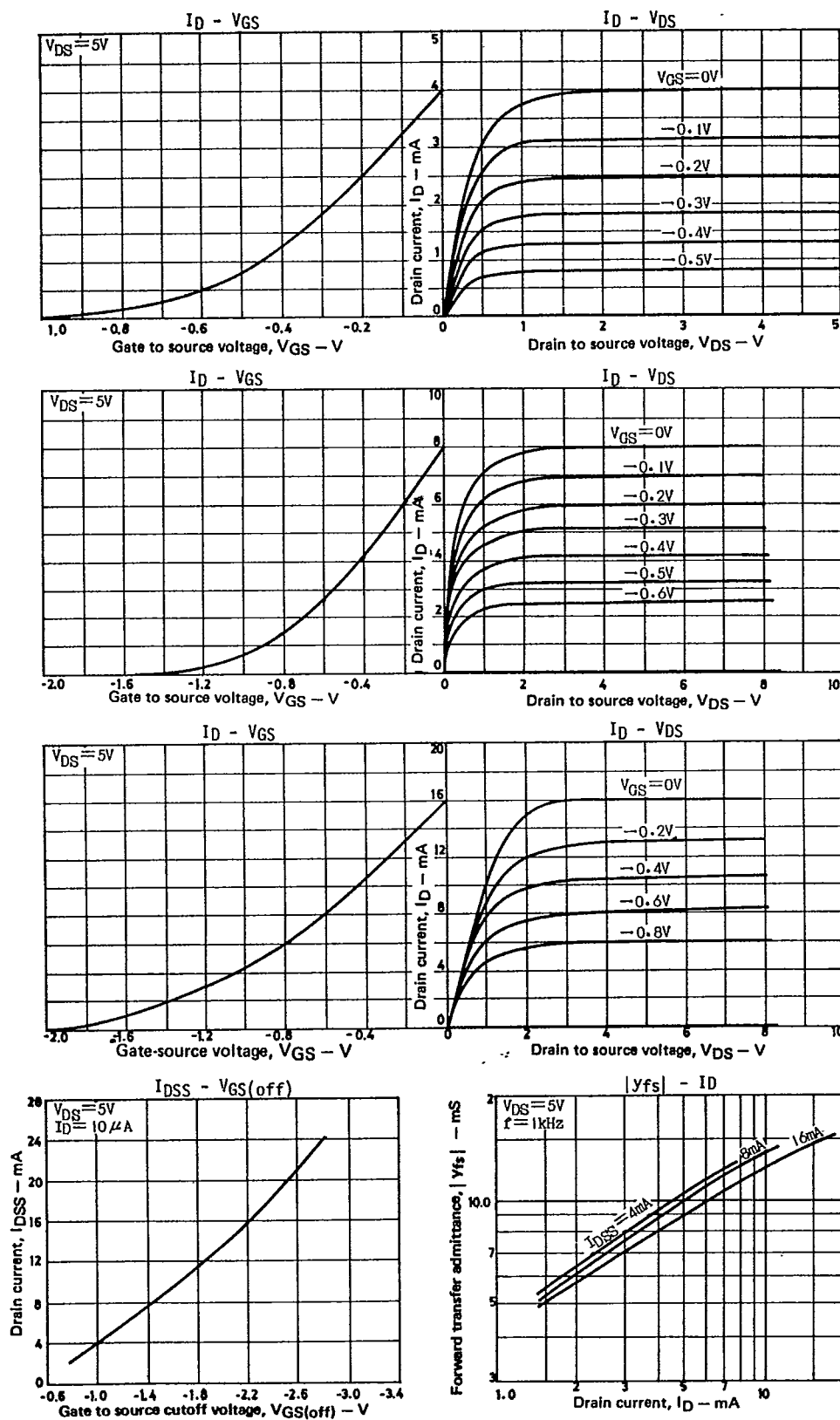
2.5	E	6.0	5.0	F	12.0	10.0	G	24.0
-----	---	-----	-----	---	------	------	---	------

**Case Outline 2040**
(unit:mm)G: Gate
S: Source
D: Drain
SANYO: SPA

6017KI/3145KI No.1005-1/4

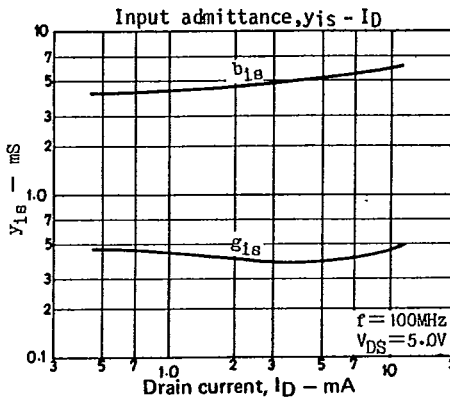
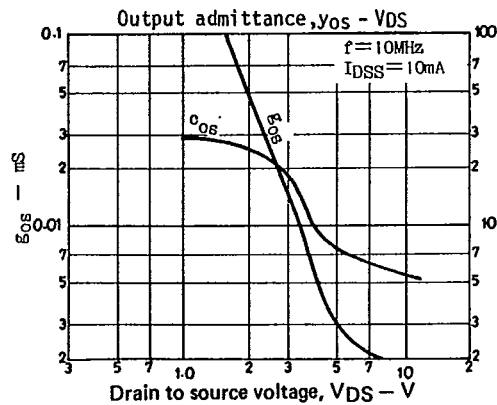
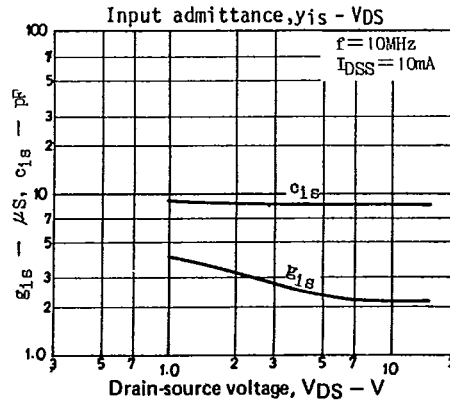
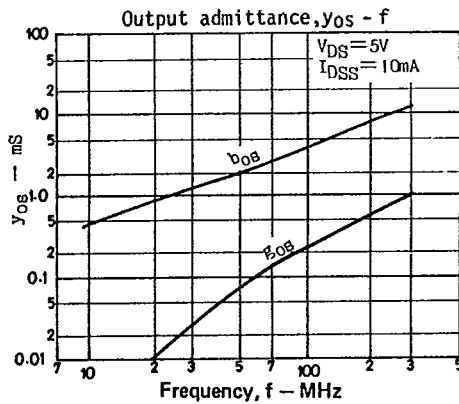
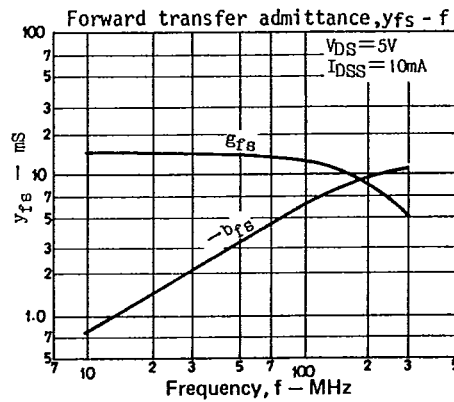
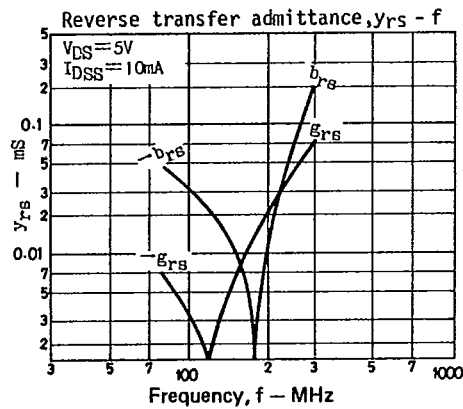
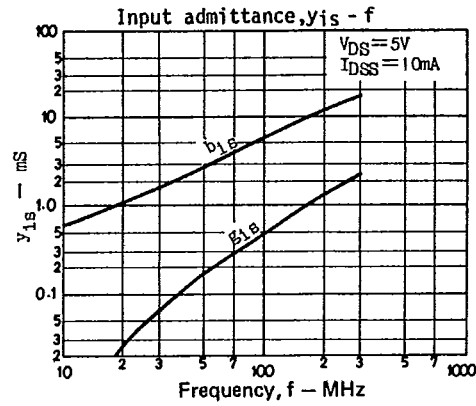
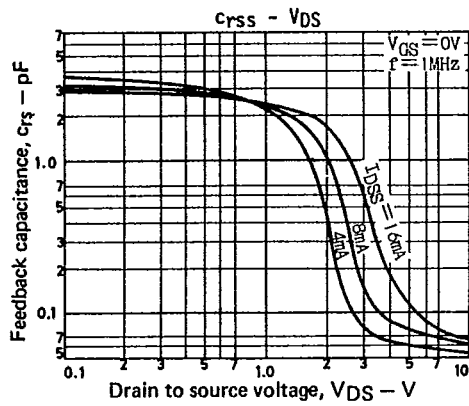
2SK315

T-31-25



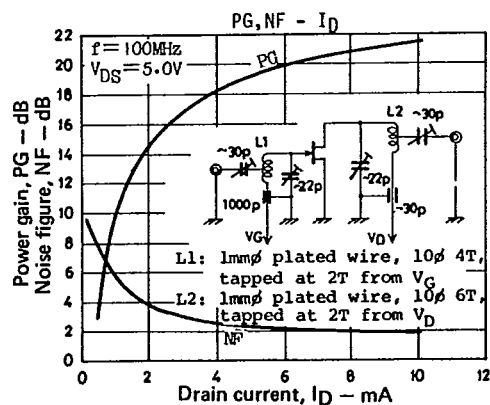
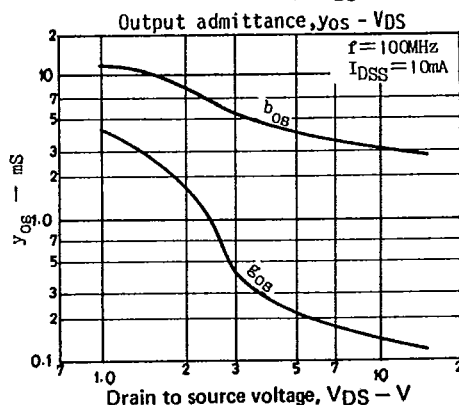
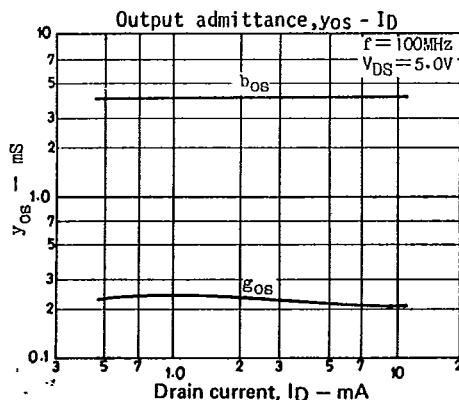
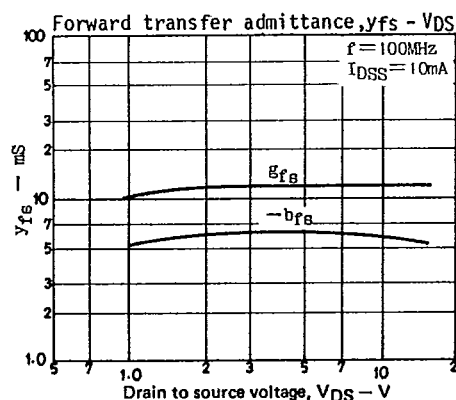
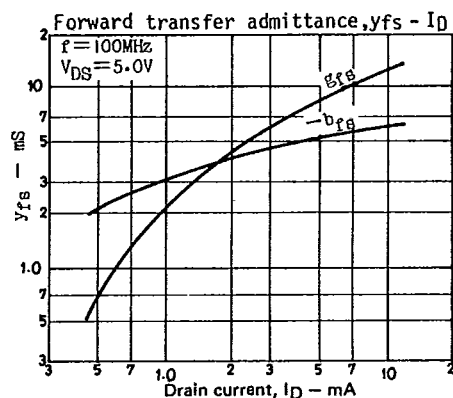
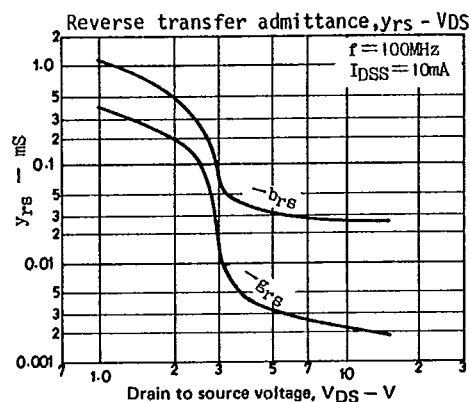
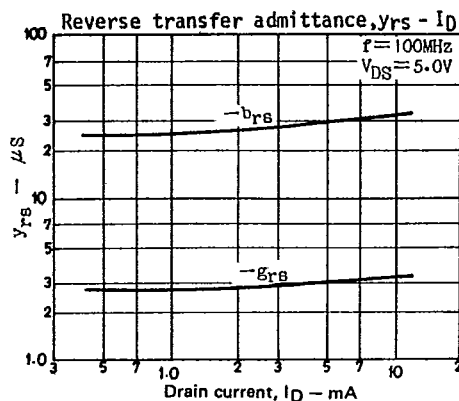
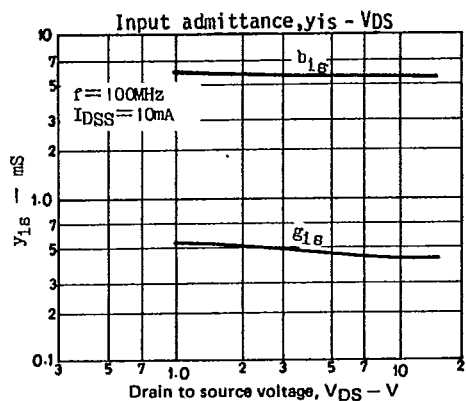
2SK315

T-31-25



2SK315

T-31-25



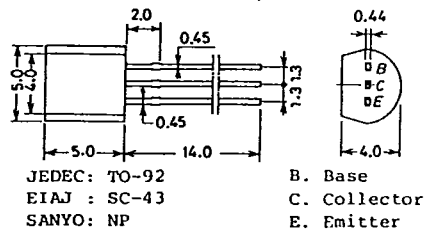
T-91-20

CASE OUTLINES AND ATTACHMENTS

- All of Sanyo 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.

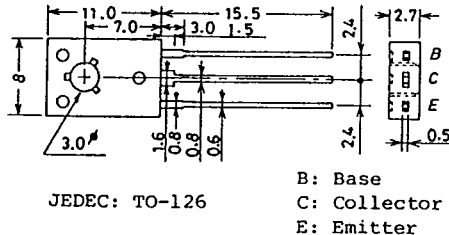
Case Outline—[2003A]

unit:mm



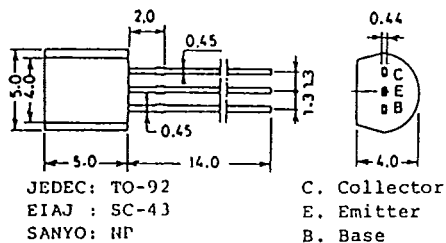
Case Outline—[2009A]

unit:mm



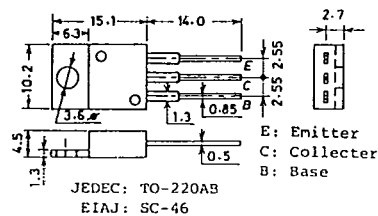
Case Outline—[2004A]

unit:mm



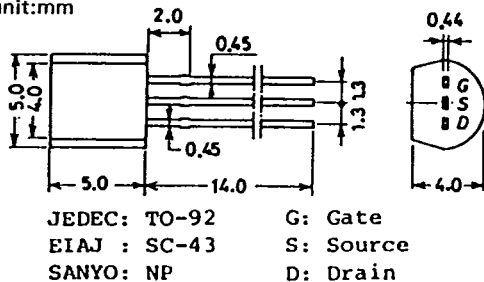
Case Outline—[2010A]

unit:mm



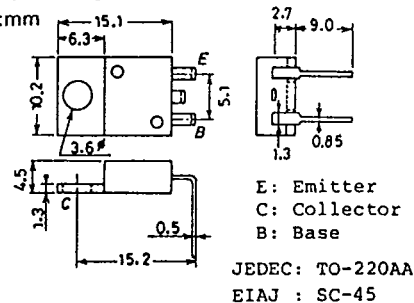
Case Outline—[2005A]

unit:mm



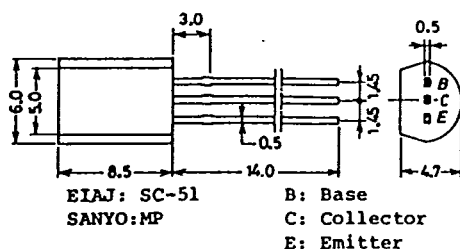
Case Outline—[2012]

unit:mm



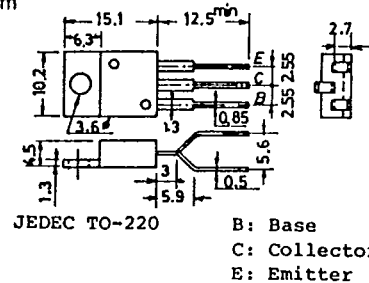
Case Outline—[2006A]

unit:mm

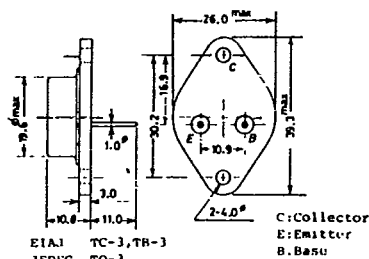


Case Outline—[2013]

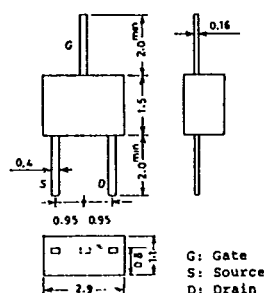
unit:mm



unit:mm

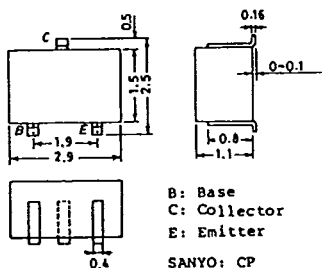


unit:mm

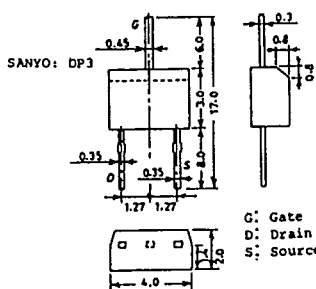


T-91-20

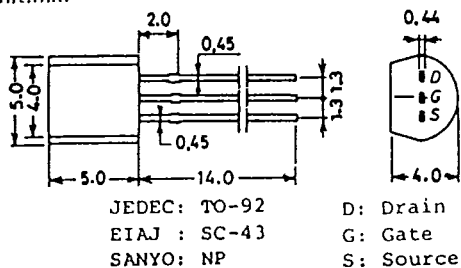
unit:mm



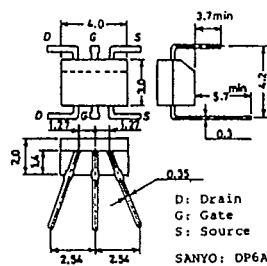
unit:mm



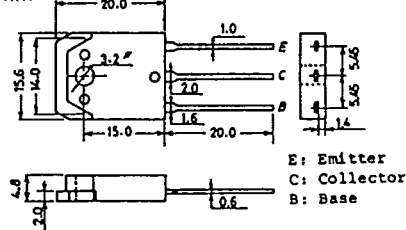
unit:mm



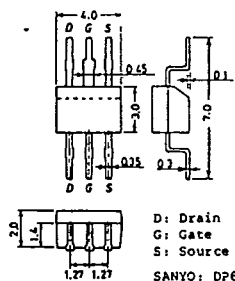
unit:mm



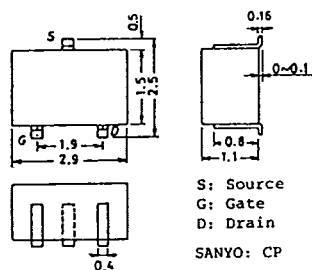
unit:mm



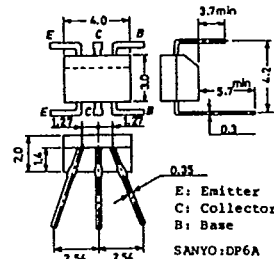
unit:mm



unit:mm



unit:mm



E: Emitter
C: Collector
B: Base

SANYO:DP6B

E: Emitter
C: Collector
B: Base

G1: Catw1
\$: Source
D-r Drain
G2: Gate2
SANYO: OP4A

E: Emitter
C: Collector
B: Base

SANYO:TO3PML

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

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

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

SANYO: TO220ML

D: Drain
G: Gate
S: Source
SANYO: SP'

SANYO: TO126ML

T-91-20

Figure 1 shows the dimensions of the Sanyo CP package. The package is rectangular with a width of 2.9 and a length of 5.2. It has a central square area with a side length of 1.9. The package is shown from three perspectives: top, side, and bottom. The top view shows the central square and four small squares at the corners. The side view shows the package's height of 0.16 and a width of 0.8. The bottom view shows the package's width of 1.1 and a height of 0.4. A legend indicates: G: Gate, S: Source, D: Drain. The text "SANYO CP" is printed below the legend.

G : Gate
S : Source
D : Drain

SANYO : CP

Technical drawing of a three-wire cable with dimensions. The drawing shows a cross-section of the cable with three conductors. Dimensions include: overall diameter 15.0, conductor diameter 3.0, insulation thickness 0.6, and a detail view showing a 2.2 diameter and 0.4 thickness.

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

2.7

1: Source
2: Drain
3: Gate2
4: Gate1

1:Source
2:Drain
3:Gate

JEDEC: TO-220AB
EIAJ: SC-46

E : Emitter
C : Collector
B : Base

SANYO : TO- 3PBL

1: Drain
2: Source
3: Gate 1
4: Gate 2

0.16

9.9 8.8 11.0 10.2 11.3 9.4 1.3 0.8 1.6 4.5 1.3 2.7 2.55

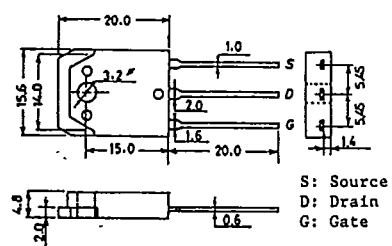
E : Emitter
C : Collector
B : Base

SANYO TO-220MF

E: Emitter
C: Collector
B: Base

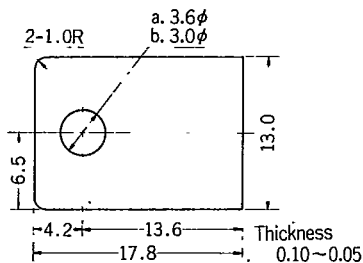
SANYO: CP

Case Outline—[2056] unit:mm



SANYO: TO3PB

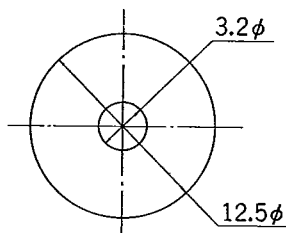
Case Outline—[0008] unit:mm

a. IS-313B
b. IS-313D

SANYO

Case Outline—[0004] unit:mm

unit:mm

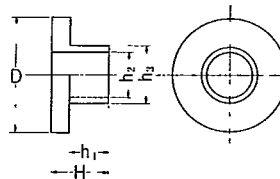


SANYO IS-126

Thickness : 0.075

Case Outline—[0009] unit:mm

unit:mm

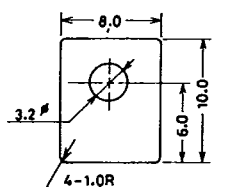


SANYO Bush

Bush	D	H	h ₁	h ₂	h ₃
A	8.0φ	4.0	2.8	3.1φ	3.89φ
B	8.0φ	3.0	1.8	3.1φ	3.89φ
C	8.0φ	5.7	4.5	3.1φ	3.89φ
D	8.0φ	2.7	1.5	3.1φ	3.89φ
E	8.0φ	3.4	2.2	3.1φ	3.89φ
F	8.0φ	4.0	2.8	3.0φ	3.59φ
K	16.0φ	3.4	1.4	3.1φ	6.0φ
L	6.0φ	3.1	1.5	2.6φ	3.5φ
M	6.0φ	3.1	1.5	3.0φ	3.59φ
P	6.0φ	2.3	1.1	3.0φ	3.59φ

Case Outline—[0005] unit:mm

unit:mm

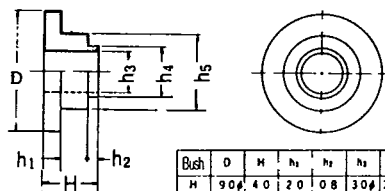


Thickness : 0.075

SANYO IS-126A Mica

Case Outline—[0010] unit:mm

unit:mm

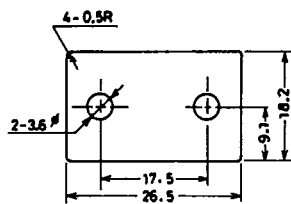


SANYO Bush

Bush	D	H	h ₁	h ₂	h ₃	h ₄	h ₅
H	9.0φ	4.0	2.0	0.8	3.0φ	3.59φ	5.6φ
T	9.0φ	5.8	2.0	2.6	3.0φ	3.59φ	5.6φ
UB	16.0φ	6.8	1.5	3.3	3.0φ	3.89φ	8.0φ

Case Outline—[0006] unit:mm

unit:mm

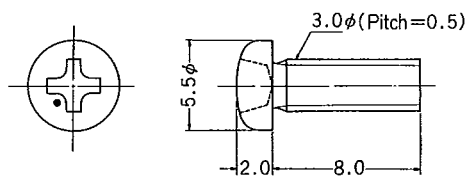


Thickness : 0.05~0.1

SANYO IS-20MA Mica

Case Outline—[0011] unit:mm

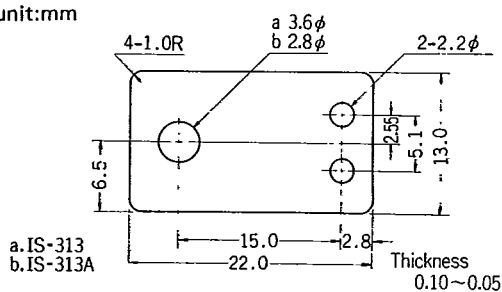
unit:mm



JIS No. B1111 M3×0.5

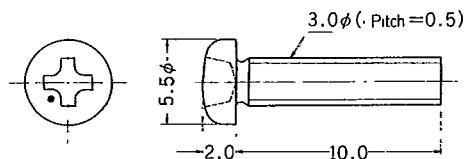
Case Outline—[0007] unit:mm

unit:mm



Case Outline—[0012] unit:mm

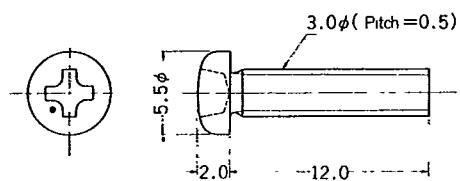
unit:mm



JIS No. B1111 M3×0.5

Case Outline—[0013]

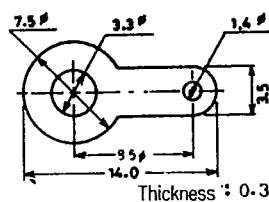
unit:mm



JIS No. B1111 M3×0.5

Case Outline—[0018]

unit:mm

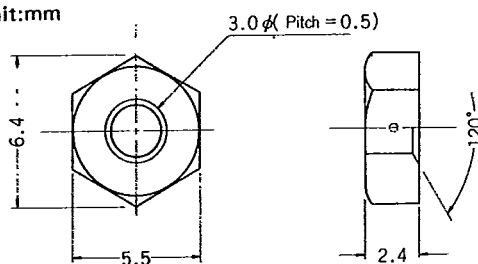


SANYO Lug 1.4

T=91-20

Case Outline—[0014]

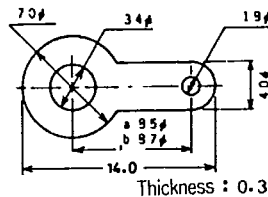
unit:mm



JIS No. B1181 M3×0.5

Case Outline—[0019]

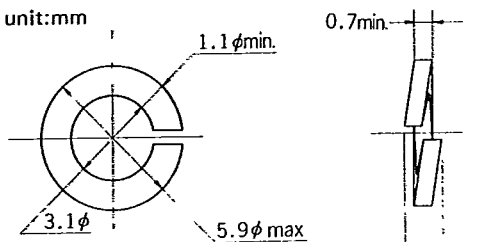
unit:mm



SANYO Lug 1.8φ

Case Outline—[0015]

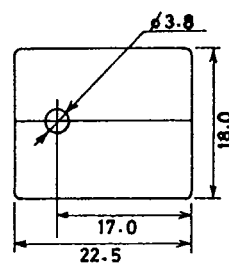
unit:mm



JIS No. B 1251 Spring washer (M3)

Case Outline—[0020]

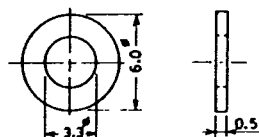
unit:mm



SANYO IS-3MP Mica

Case Outline—[0016]

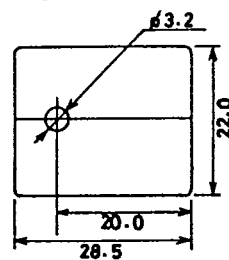
unit:mm



JIS No. B1252 Flat washer

Case Outline—[0021]

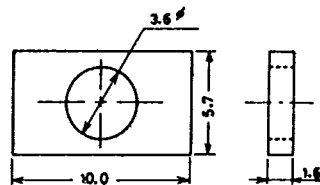
unit:mm



SANYO IS-MPC Mica

Case Outline—[0017]

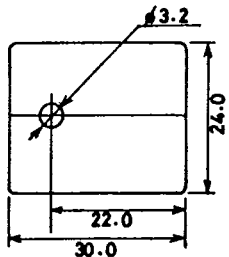
unit:mm



JIS No. G3141 Rectangular washer

Case Outline—[0022]

unit:mm



SANYO IS-3PBL Mica