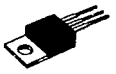
T-39-11

2SK775



2052A

N-Channel MOS
Silicon Field-Effect Transistor

Very High Speed Switching Applications

Features

. Low ON resistance, very high-speed switching

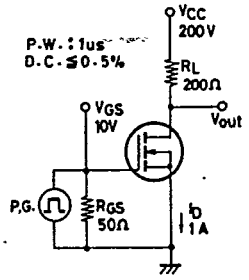
Absolute Maximum Ratings at Ta=25°C

				unit
Drain to Source Voltage	V_{DSS}		450	V
Gate to Source Voltage	V_{GSS}		±20	V
Drain Current (D.C)	I_D		2	A
Drain Current (pulse)	I_D peak		5	A
Allowable Power Dissipation	P_D	Tc=25°C	50	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

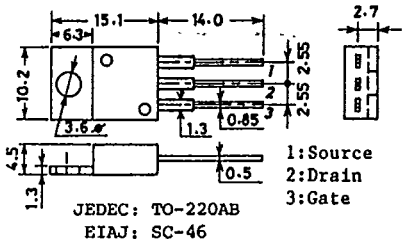
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
D-S Breakdown Voltage	V_{DSS}	I_D=1mA, V_{GS}=0	450			V
D-S Cutoff Current	I_{DSS}	V_{DS}=450V, V_{GS}=0			1.0	mA
G-S Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0			±100	nA
G-S Cutoff Current	$I_{GS(off)}$	V_{DS}=10V, I_D=1mA	1.5		4.0	V
Forward Transfer Admittance	$\|Y_{fs}\|$	V_{DS}=10V, I_D=1A	0.6	1.2		S
Saturation Resistance	$R_{DS(on)}$	I_D=1A, V_{GS}=10V		2.5	3.5	ohm
Input Capacitance	C_{iss}	V_{DS}=20V, f=1MHz		400		pF
Output Capacitance	C_{oss}	V_{DS}=20V, f=1MHz		50		pF
Reverse Transfer Capacitance	C_{rss}	V_{DS}=20V, f=1MHz		10		pF
Turn-on Delay Time	$t_{d(on)}$	I_D=1A, V_{GS}=10V, V_{CC}=200V, R_{GS}=50ohms		15	30	ns
Rise Time	t_r			15	30	ns
Turn-off Delay Time	$t_{d(off)}$			50	100	ns
Fall Time	t_f			25	50	ns

Switching Time Test Circuit

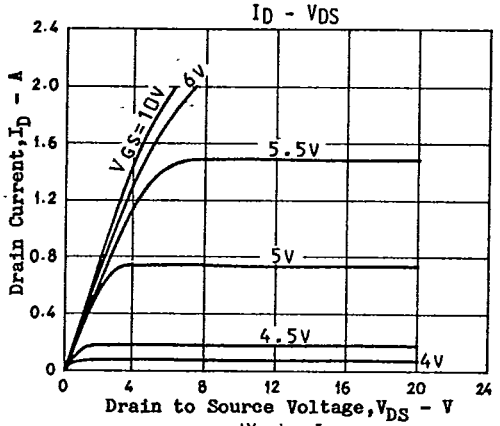


Case Outline 2052A
(unit:mm)

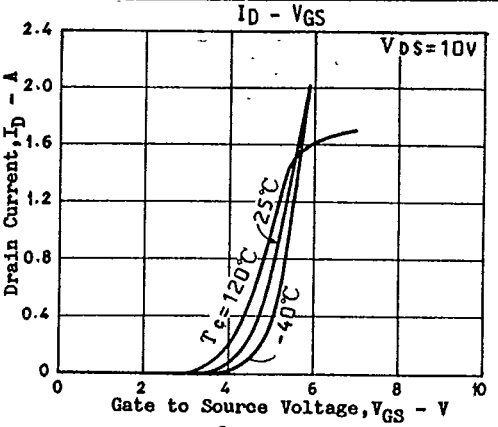


Note: Be carefull in handling the 2SK775 because it has no protect diode between gate and source.

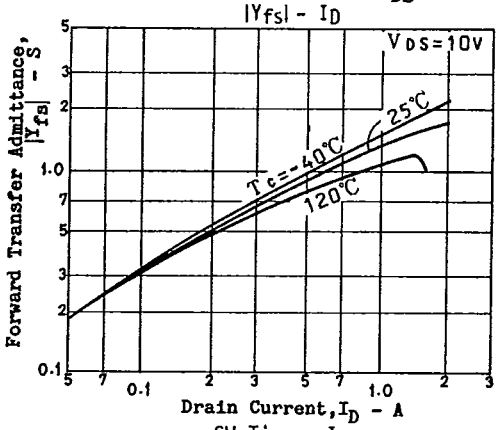
I_D - V_{DS}



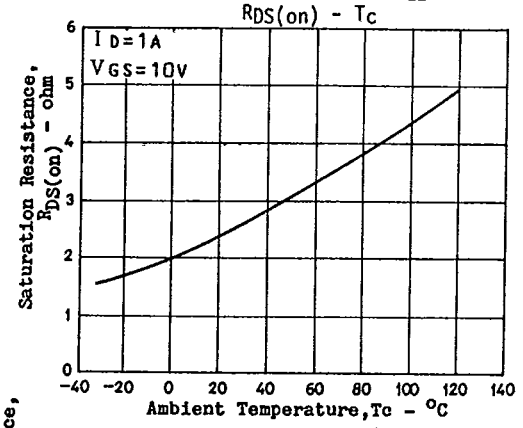
I_D - V_{GS}



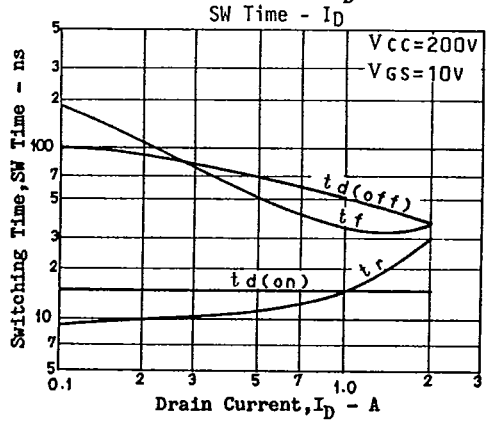
|Yfs| - I_D



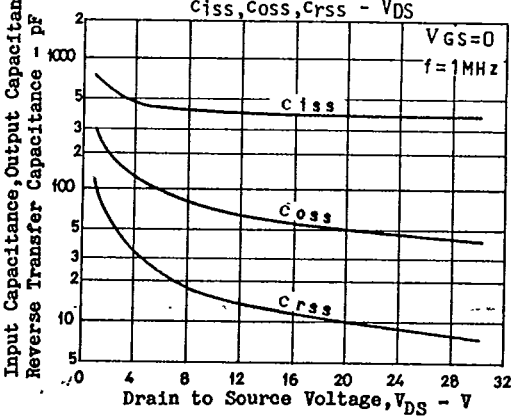
$R_{DS(on)}$ - Tc



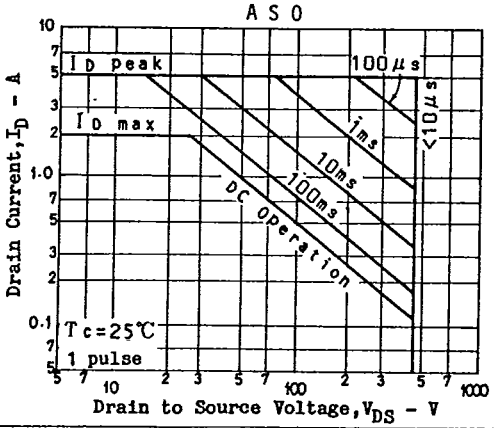
SW Time - I_D



Ciss, Coss, Crss - V_{DS}



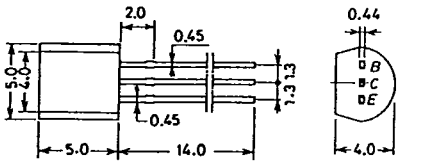
A S O



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.

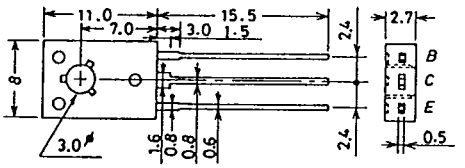
Case Outline—[2003A]
unit:mm



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

B. Base
C. Collector
E. Emitter

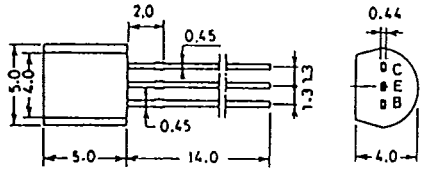
Case Outline—[2009A]
unit:mm



JEDEC: TO-126

B: Base
C: Collector
E: Emitter

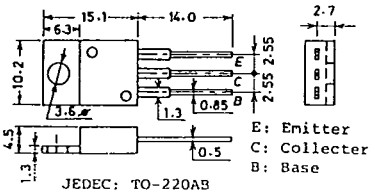
Case Outline—[2004A]
unit:mm



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

C. Collector
E. Emitter
B. Base

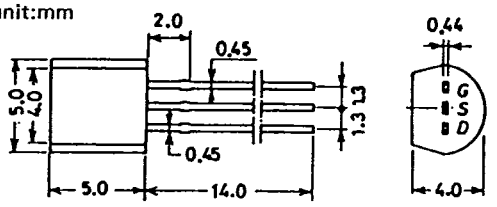
Case Outline—[2010A]
unit:mm



JEDEC: TO-220AB
EIAJ: SC-46

E: Emitter
C: Collecter
B: Base

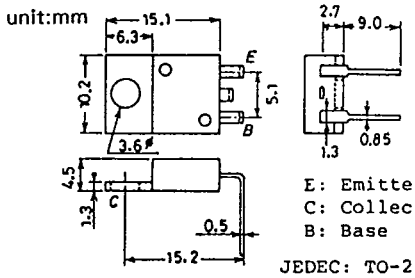
Case Outline—[2005A]
unit:mm



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

G: Gate
S: Source
D: Drain

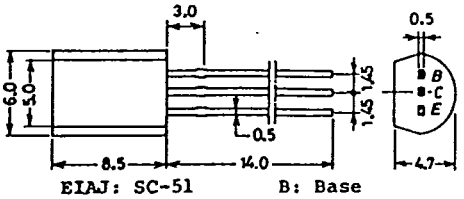
Case Outline—[2012]
unit:mm



E: Emitter
C: Collector
B: Base

JEDEC: TO-220AA
EIAJ : SC-45

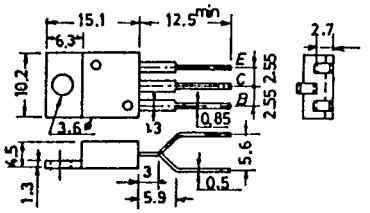
Case Outline—[2006A]
unit:mm



EIAJ: SC-51
SANYO:MP

B: Base
C: Collector
E: Emitter

Case Outline—[2013]
unit:mm



JEDEC TO-220

B: Base
C: Collector
E: Emitter

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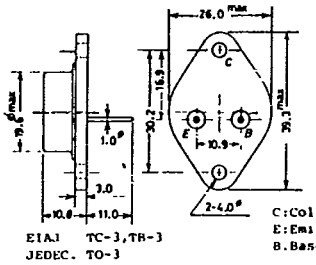
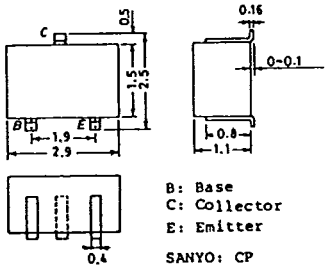
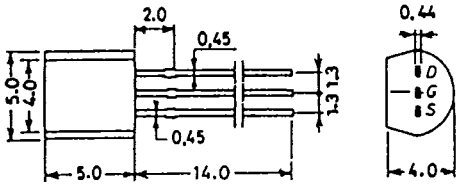
Case Outline—[2017]
unit:mm



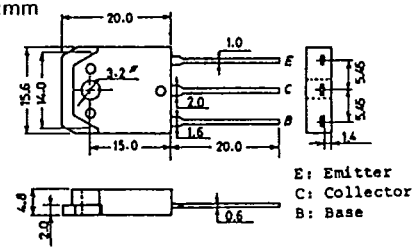
Case Outline—[2018A]
unit:mm



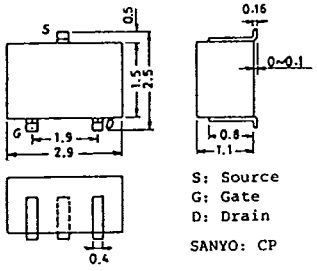
Case Outline—[2019A]
unit:mm



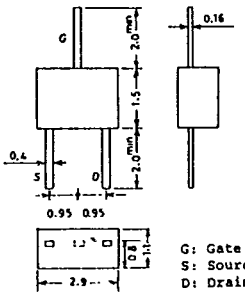
Case Outline—[2022]
unit:mm



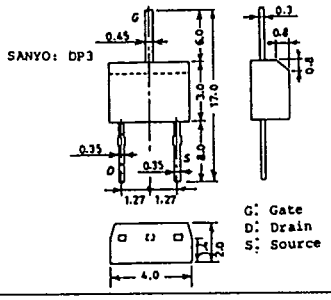
Case Outline—[2024A]
unit:mm



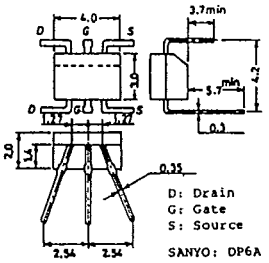
Case Outline—[2025]
unit:mm



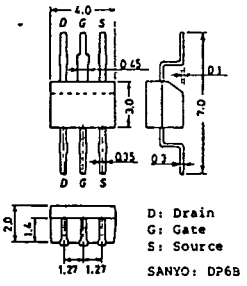
Case Outline—[2026]
unit:mm



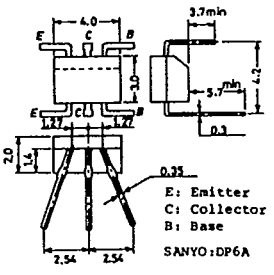
Case Outline—[2027A]
unit:mm



Case Outline—[2028A]
unit:mm



Case Outline—[2029A]
unit:mm



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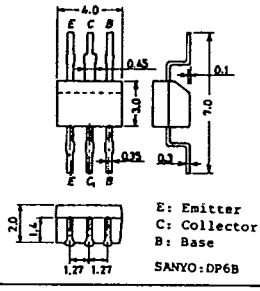
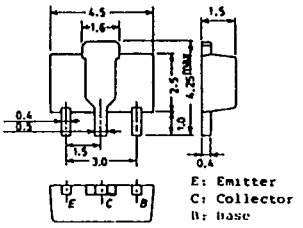
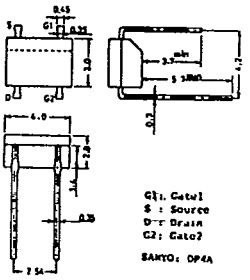
Case Outline—[2030A]
unit:mm



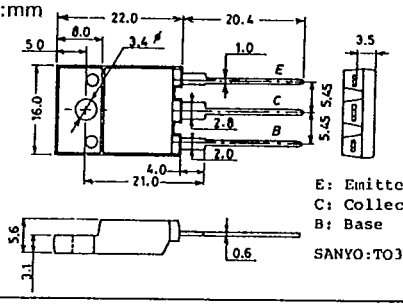
Case Outline—[2038]
unit:mm



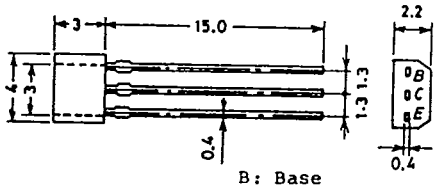
Case Outline—[2031A]
unit:mm



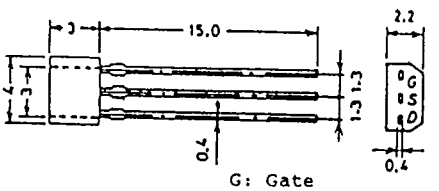
Case Outline—[2039]
unit:mm



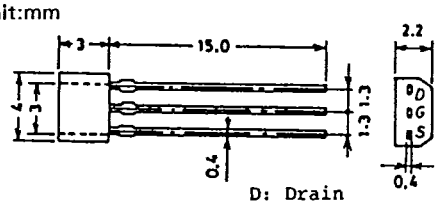
Case Outline—[2033]
unit:mm



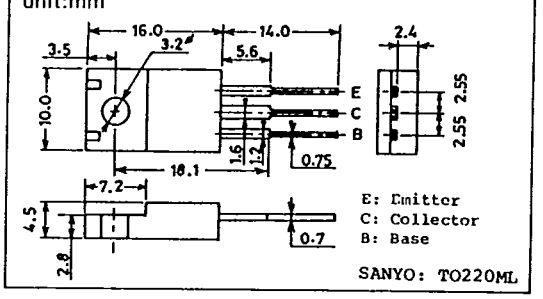
Case Outline—[2040]
unit:mm



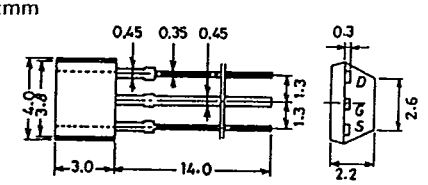
Case Outline—[2034]
unit:mm



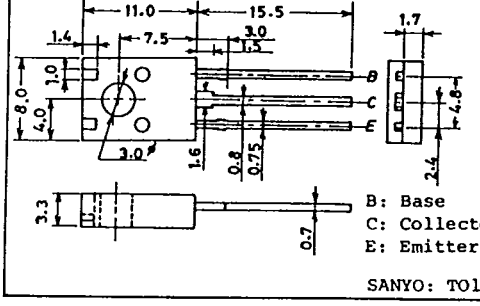
Case Outline—[2041]
unit:mm



Case Outline—[2037]
unit:mm



Case Outline—[2042A] unit:mm



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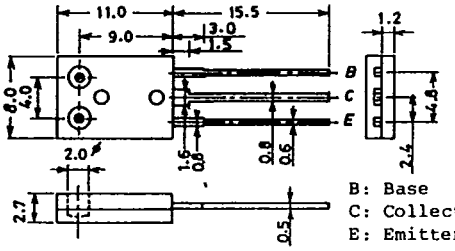
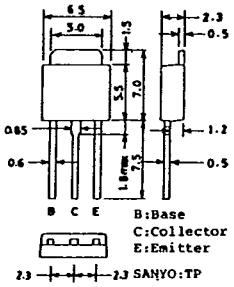
Case Outline—[2043A] unit:mm

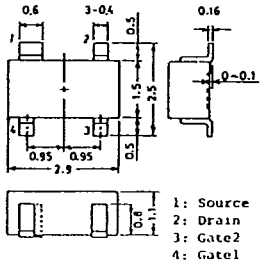


SANYO: TO126LP

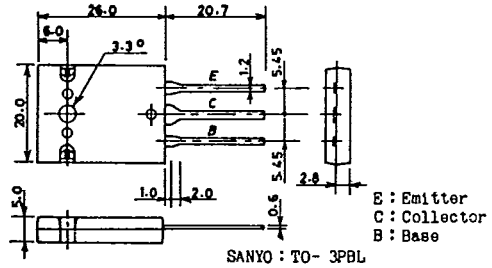
Case Outline—[2045] unit:mm



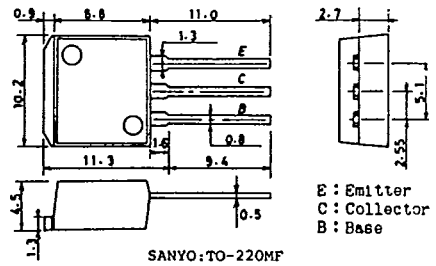
Case Outline—[2046] unit:mm



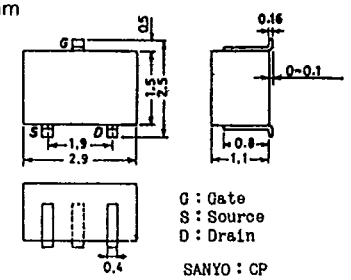
Case Outline—[2048] unit:mm



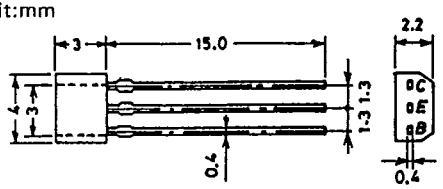
Case Outline—[2049] unit:mm



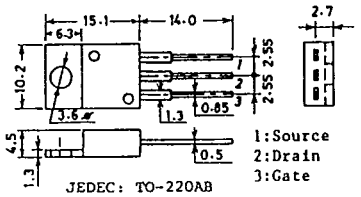
Case Outline—[2050] unit:mm



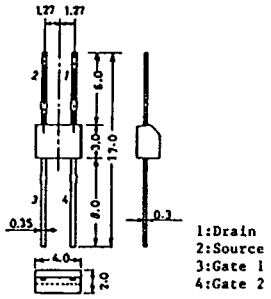
Case Outline—[2051] unit:mm



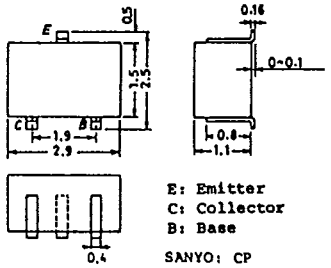
Case Outline—[2052A] unit:mm



Case Outline—[2053] unit:mm



Case Outline—[2054] unit:mm



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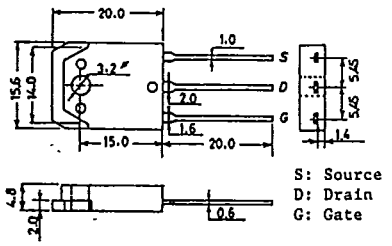
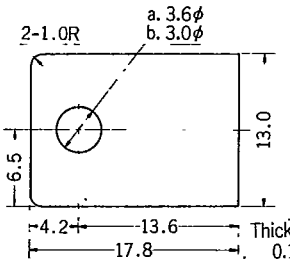
Case Outline—[2056] unit:mm



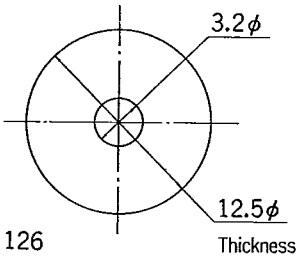
SANYO: TO3PB

Case Outline—[0008]
unit:mm



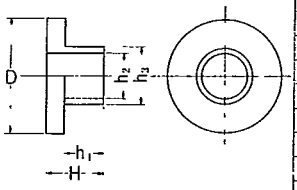
SANYO

Case Outline—[0004]
unit:mm



SANYO IS-126 Thickness : 0.075

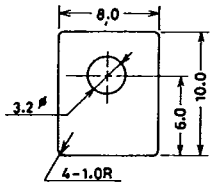
Case Outline—[0009]
unit:mm



Bush	D	H	h1	h2	h3
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

SANYO Bush

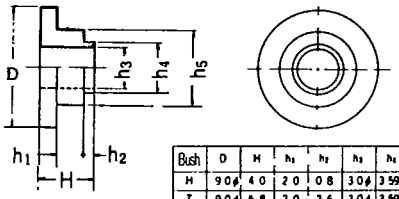
Case Outline—[0005]
unit:mm



Thickness : 0.075

SANYO IS-126A Mica

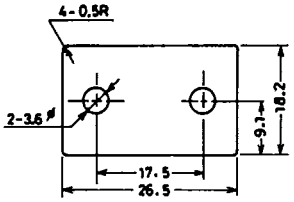
Case Outline—[0010]
unit:mm



Bush	D	H	h1	h2	h3	h4	h5
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

SANYO Bush

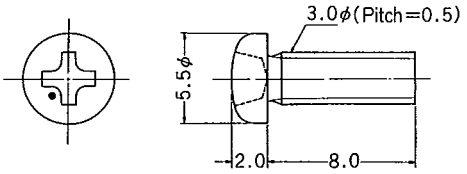
Case Outline—[0006]
unit:mm



Thickness : 0.05~0.1

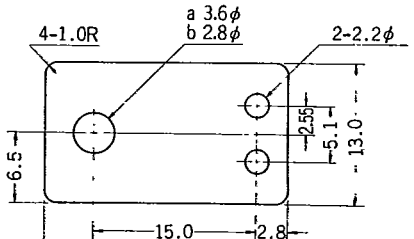
SANYO IS-20MA Mica

Case Outline—[0011]
unit:mm



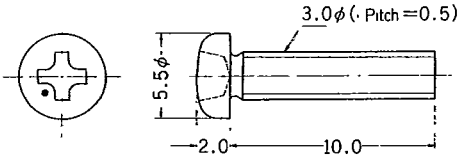
JIS No.B1111 M3×0.5

Case Outline—[0007]
unit:mm



a. IS-313
b. IS-313A
Thickness
0.10~0.05

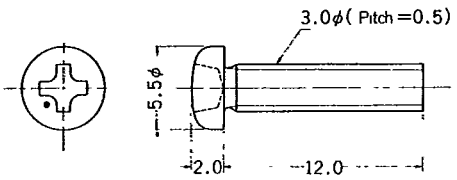
Case Outline—[0012]
unit:mm



JIS No.B1111 M3×0.5

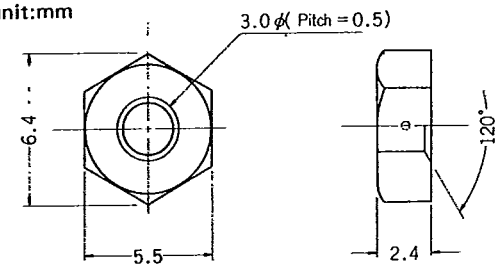
T-91-20

Case Outline—[0013]
unit:mm



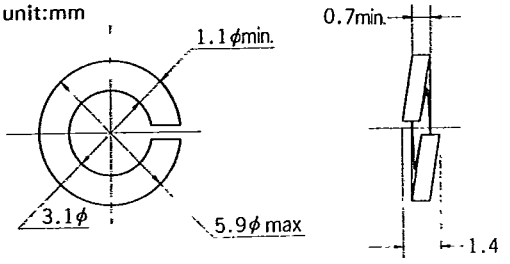
JIS No.B1111 M3×0.5

Case Outline—[0014]
unit:mm



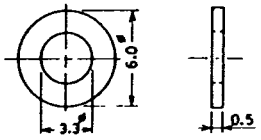
JIS No. B1181 M3×0.5

Case Outline—[0015]
unit:mm



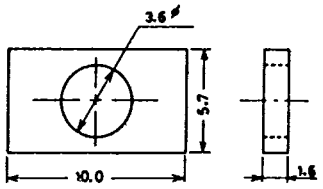
JIS No. B 1251 Spring washer (M3)

Case Outline—[0016]
unit:mm



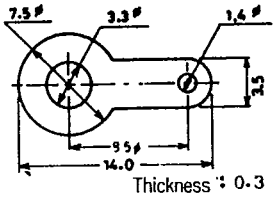
JIS No.B1252 Flat washer

Case Outline—[0017]
unit:mm



JIS No.G3141 Rectangular washer

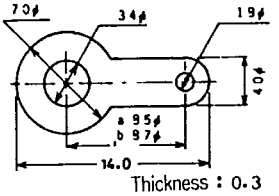
Case Outline—[0018]
unit:mm



Thickness : 0.3

SANYO Lug 1.4

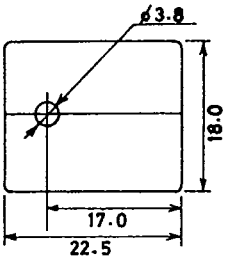
Case Outline—[0019]
unit:mm



Thickness : 0.3

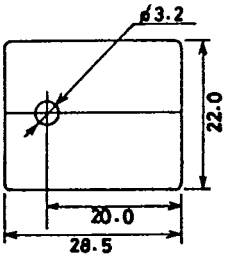
SANYO Lug 1.8φ

Case Outline—[0020]
unit:mm



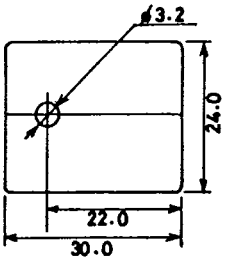
SANYO IS-3MP Mica

Case Outline—[0021]
unit:mm



SANYO IS-MPC Mica

Case Outline—[0022]
unit:mm



SANYO IS-3PBL Mica