

2SC693



2003A

NPN Planar Silicon Transistor

Low Frequency, Low Noise Amp Applications

©257E

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Value	unit
Collector to Base Voltage	V_{CB0}	40	V
Collector to Emitter Voltage	V_{CE0}	20	V
Emitter to Base Voltage	V_{EB0}	5	V
Collector Current	I_C	50	mA
Collector Dissipation	P_C	100	mW
Junction Temperature	T_J	125	°C
Storage Temperature	T_{stg}	-40 to +125	°C

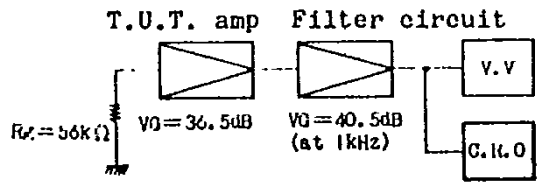
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Test Conditions	min	typ	max	unit
Collector Cutoff Current	I_{CB0}	$V_{CB}=35V, I_E=0$			1.0	uA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=4V, I_C=0$			1.0	uA
DC Current Gain	h_{FE}	$V_{CE}=6V, I_C=1mA$	160*		960*	
Gain Bandwidth Product	f_T	$V_{CE}=6V, I_C=1mA$		100		MHz
Output Capacitance	c_{ob}	$V_{CB}=6V, f=1MHz$		3.5		pF
Output Noise Voltage	V_{NO}	$V_{CC}=30V, I_C=1mA, R_g=56k\Omega, VG=77dB, f=1kHz$ (See Circuit.)			105	mV
Output Noise Voltage(Peak)					730	mV

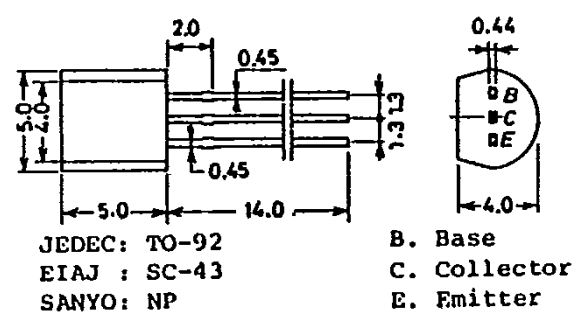
*:The 2SC693 is classified by $1mA h_{FE}$ as follows:

160	F	320	280	G	560	480	H	960
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Noise Test Circuit



Case Outline 2003A (unit:mm)



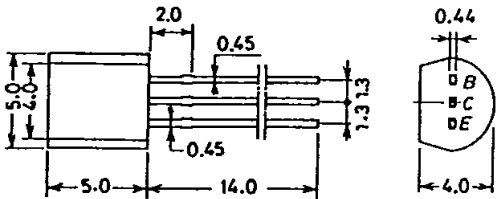
The 2SC693 is scheduled to be discontinued soon. Use the 2SC1570, instead of the 2SC693, in new applications where you are planning to use the 2SC693

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

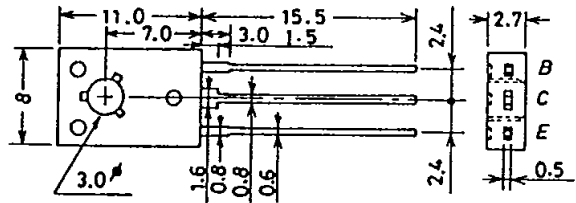


JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

B. Base
C. Collector
E. Emitter

Case Outline—[2009A]

unit:mm

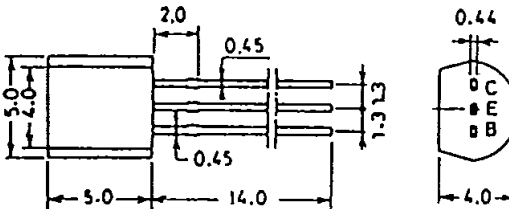


JEDEC: TO-126

B: Base
C: Collector
E: Emitter

Case Outline—[2004A]

unit:mm

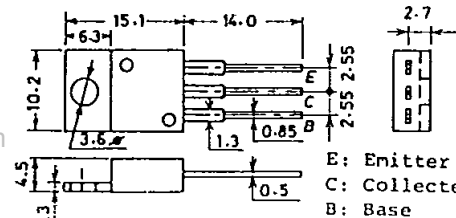


JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

C. Collector
E. Emitter
B. Base

Case Outline—[2010A]

unit:mm

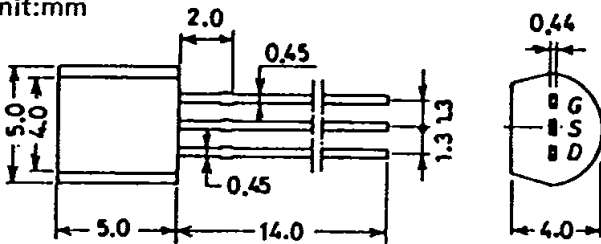


JEDEC: TO-220AB
EIAJ: SC-46

E: Emitter
C: Collector
B: Base

Case Outline—[2005A]

unit:mm

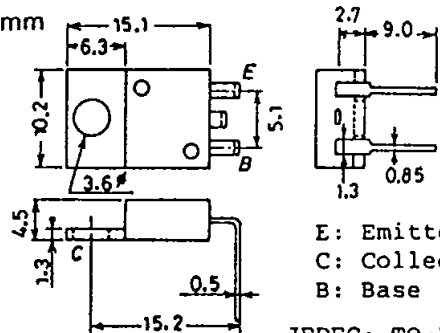


JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

G: Gate
S: Source
D: Drain

Case Outline—[2012]

unit:mm

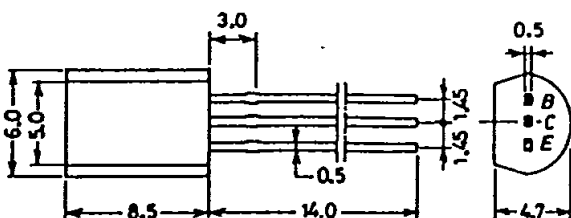


JEDEC: TO-220AA
EIAJ : SC-45

E: Emitter
C: Collector
B: Base

Case Outline—[2006A]

unit:mm

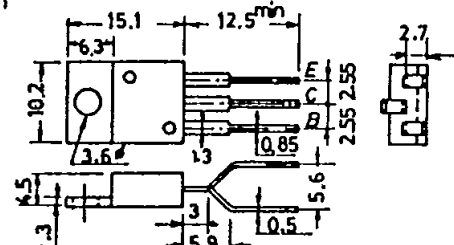


EIAJ: SC-51
SANYO:MP

B: Base
C: Collector
E: Emitter

Case Outline—[2013]

unit:mm

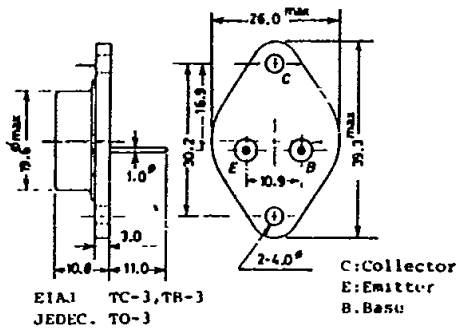


JEDEC TO-220

B: Base
C: Collector
E: Emitter

Case Outline-[2017]

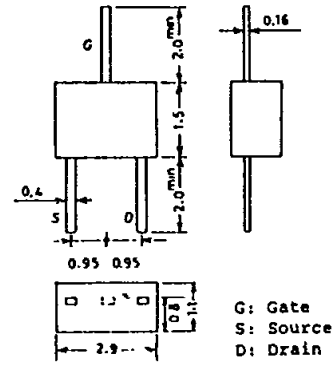
unit:mm



Case Outline-[2025]

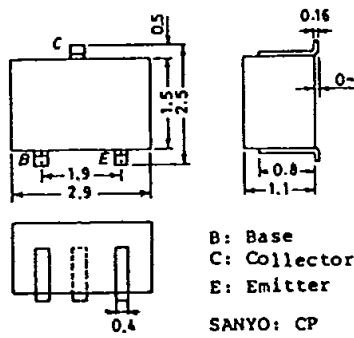
unit:mm

T=91-20



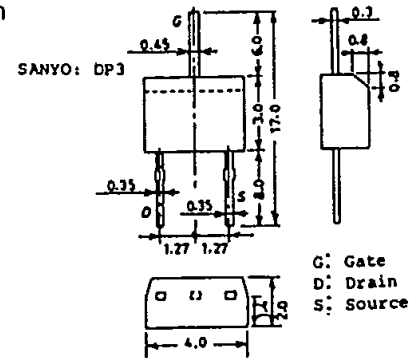
Case Outline-[2018A]

unit:mm



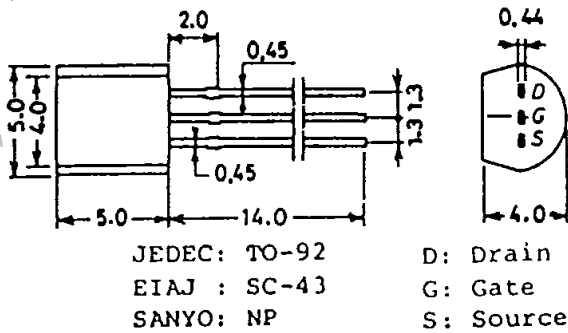
Case Outline-[2026]

unit:mm



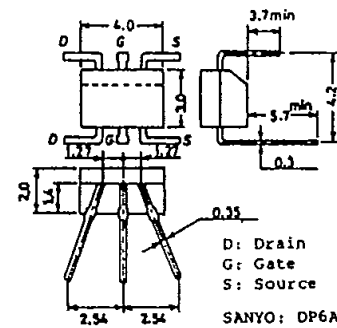
Case Outline-[2019A]

unit:mm



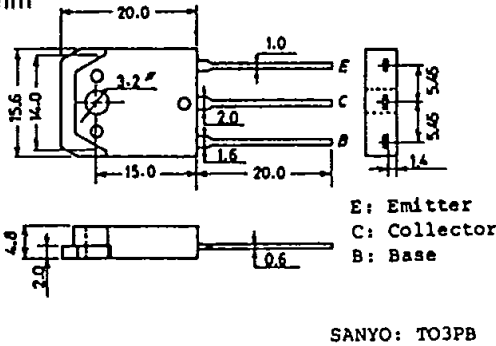
Case Outline-[2027A]

unit:mm



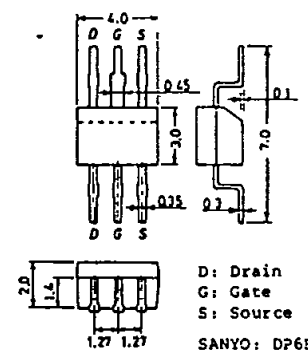
Case Outline-[2022]

unit:mm



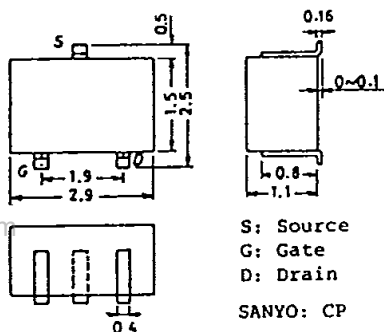
Case Outline-[2028A]

unit:mm



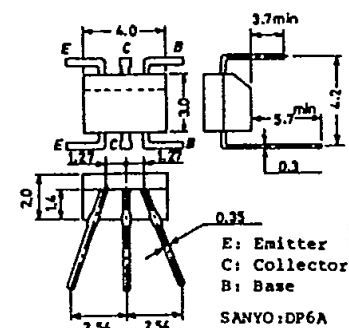
Case Outline-[2024A]

unit:mm



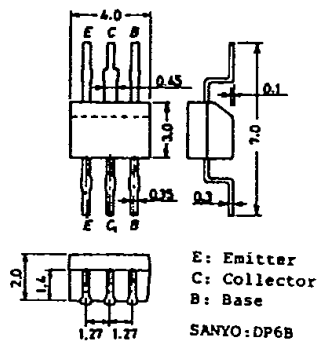
Case Outline-[2029A]

unit:mm



Case Outline-[2030A]

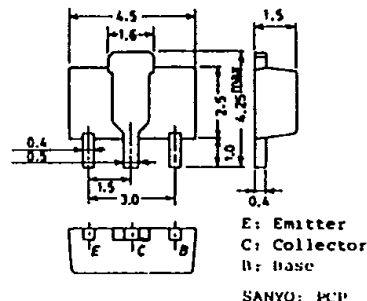
unit:mm



E: Emitter
C: Collector
B: Base
SANYO: DP6B

Case Outline-[2038]

unit:mm

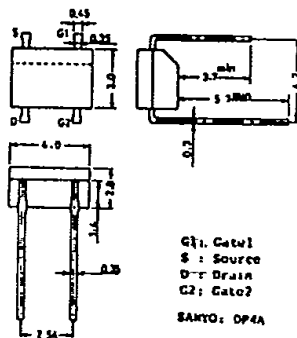


E: Emitter
C: Collector
B: Base
SANYO: PUP

T-91-20

Case Outline-[2031A]

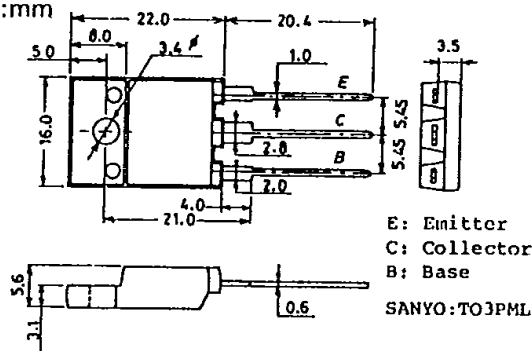
unit:mm



G1: Gate1
S: Source
D: Drain
C2: Gate2
SANYO: DP4A

Case Outline-[2039]

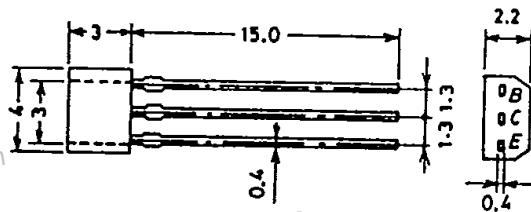
unit:mm



E: Emitter
C: Collector
B: Base
SANYO: TO3PML

Case Outline-[2033]

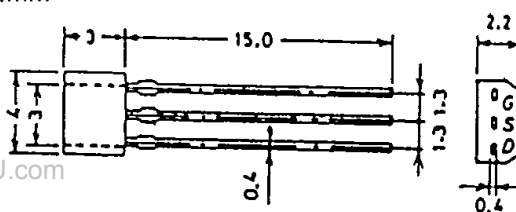
unit:mm



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

Case Outline-[2040]

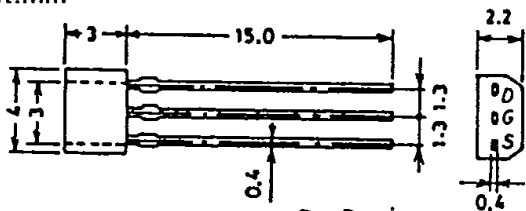
unit:mm



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

Case Outline-[2034]

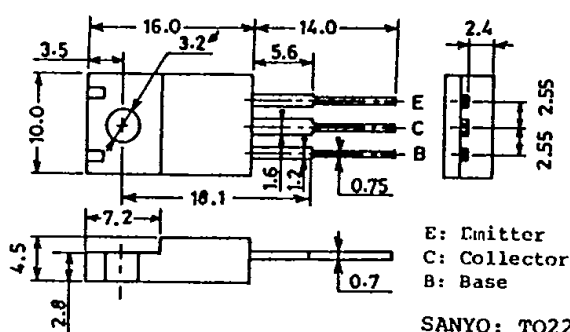
unit:mm



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

Case Outline-[2041]

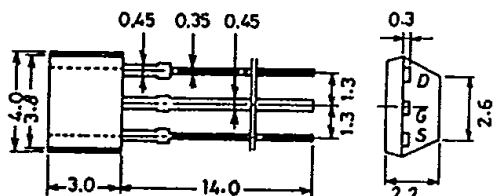
unit:mm



E: Emitter
C: Collector
B: Base
SANYO: TO220ML

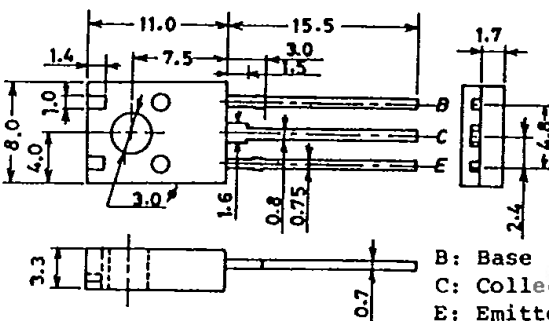
Case Outline-[2037]

unit:mm

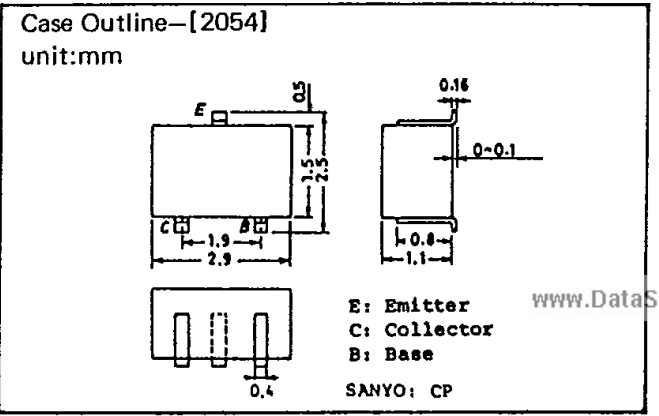
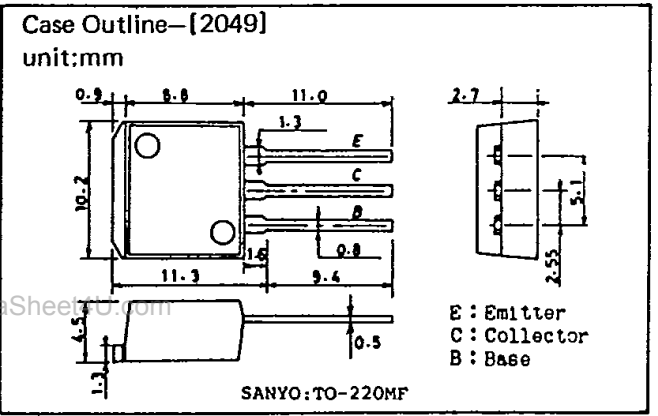
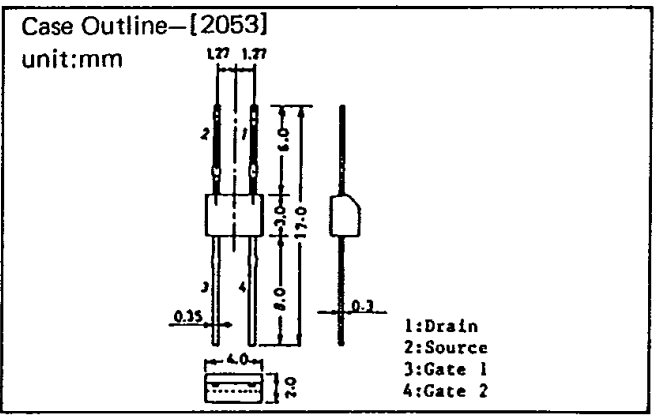
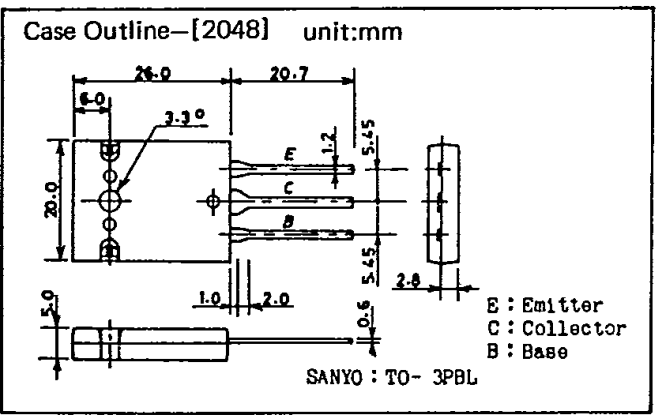
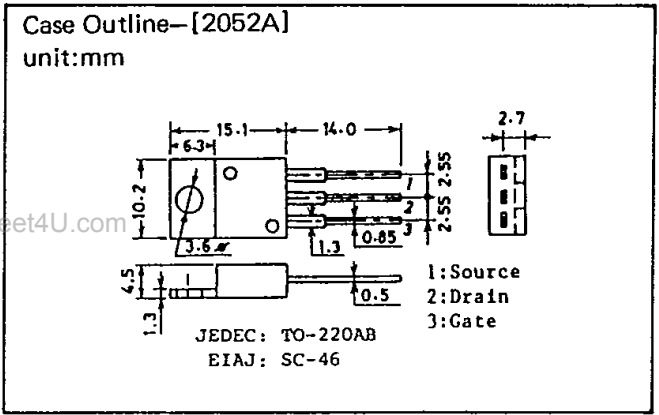
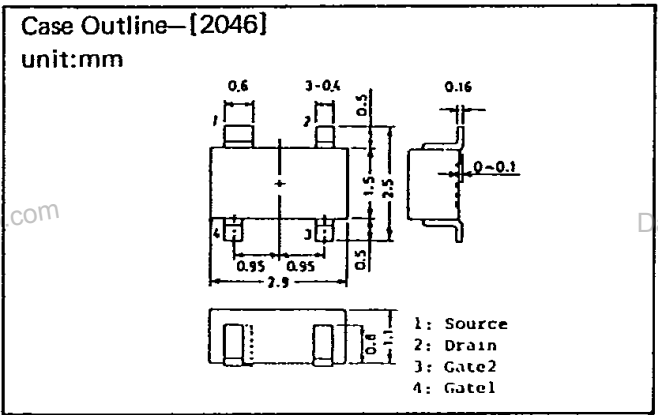
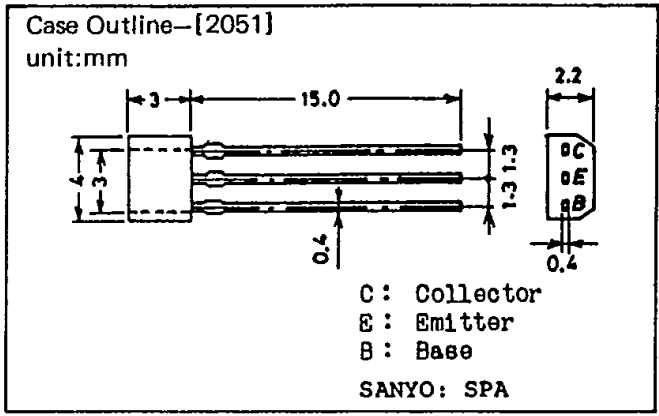
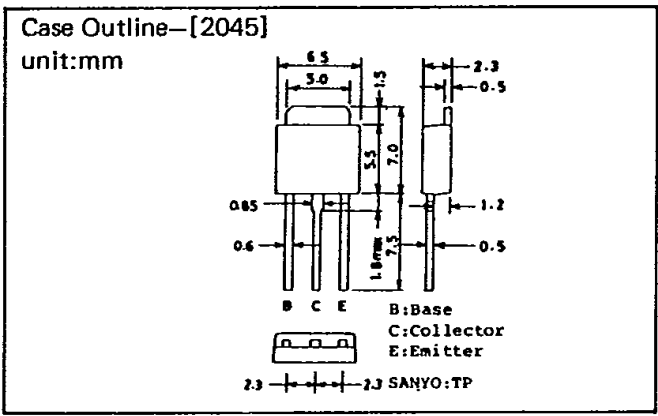
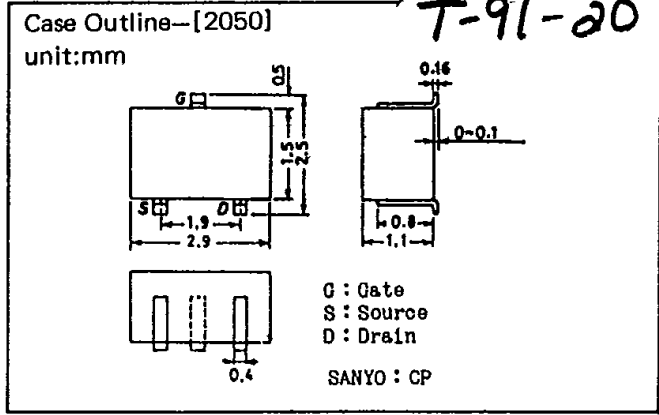
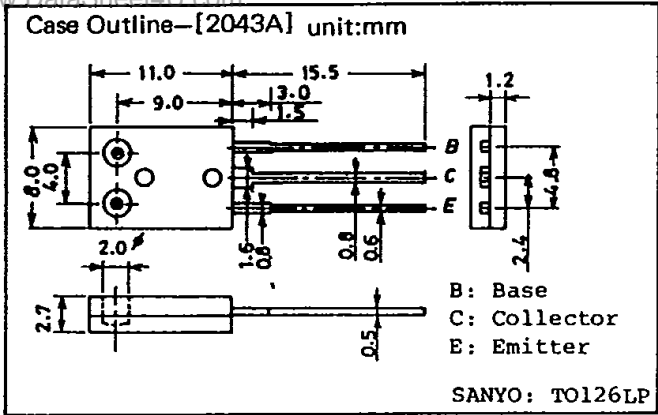


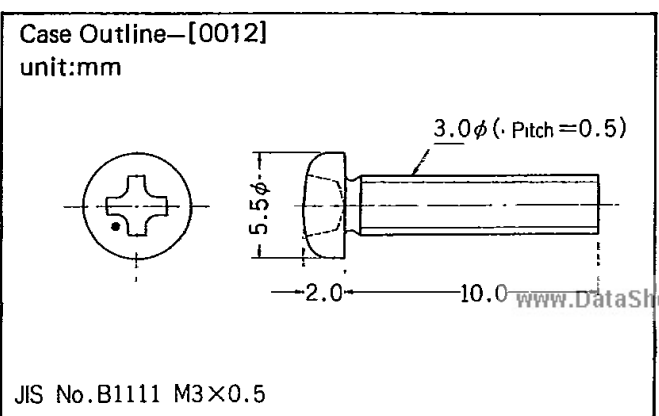
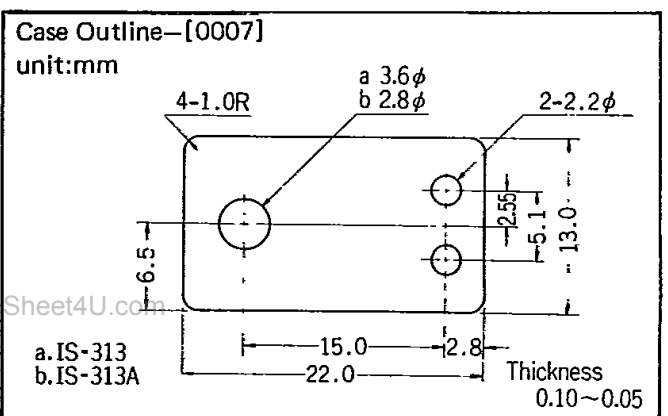
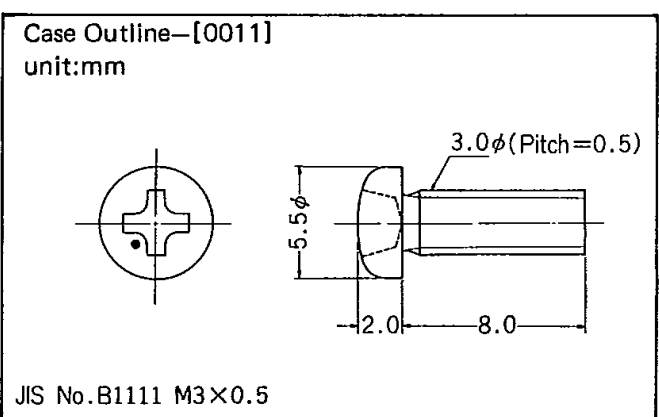
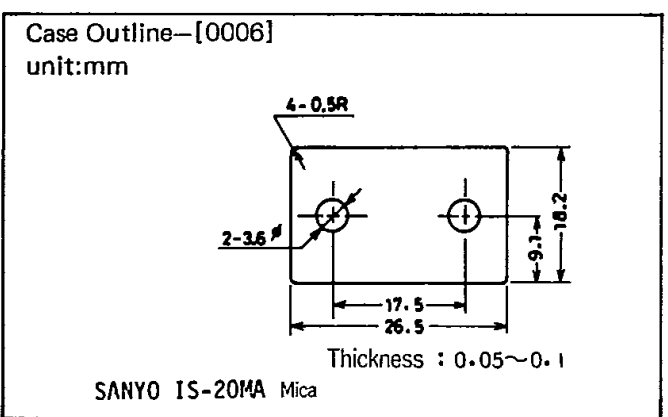
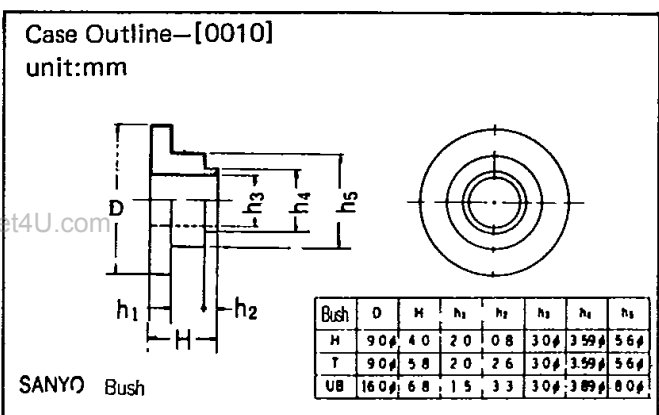
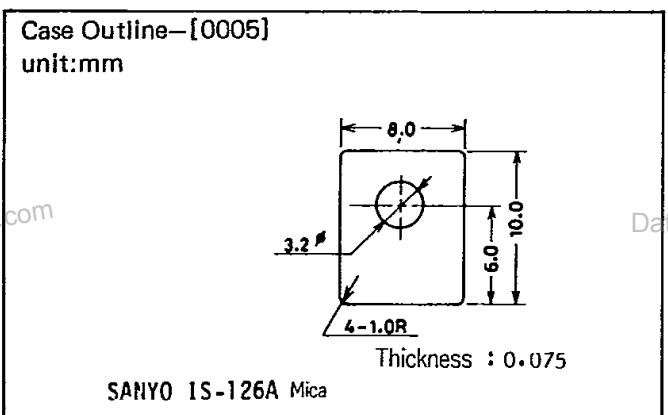
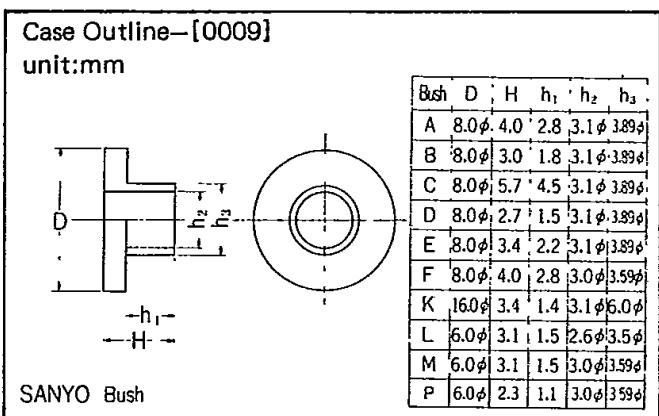
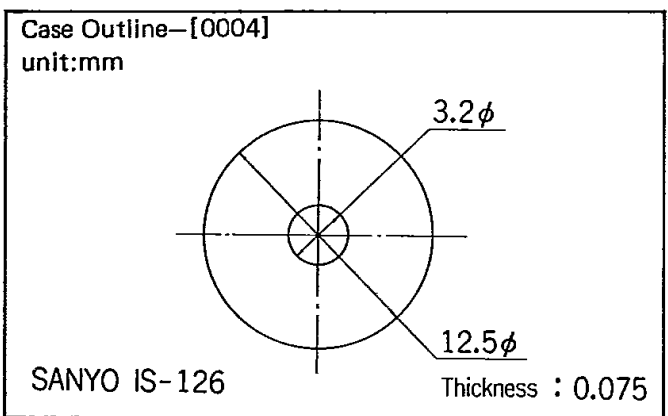
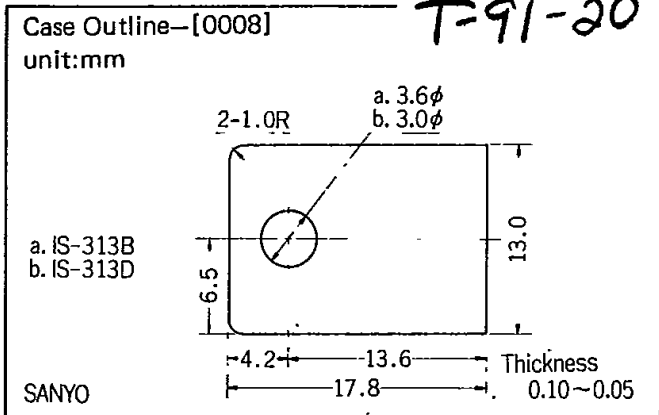
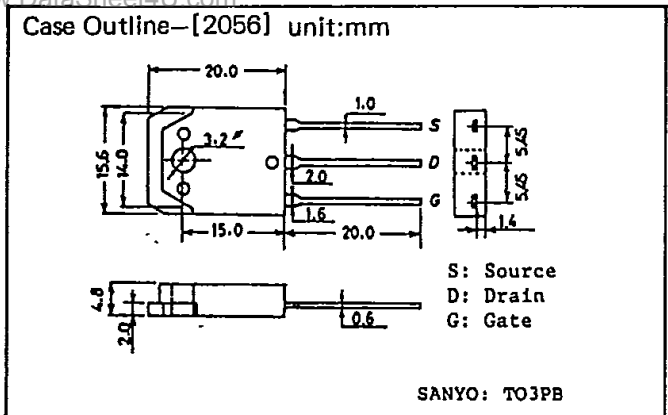
D: Drain
G: Gate
S: Source
SANYO: SP'

Case Outline-[2042A] unit:mm

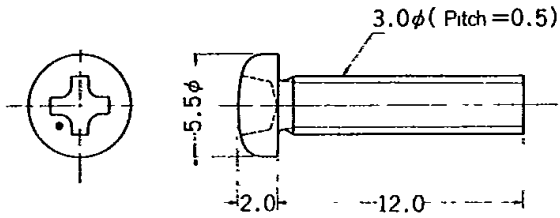


B: Base
C: Collector
E: Emitter
SANYO: TO126ML





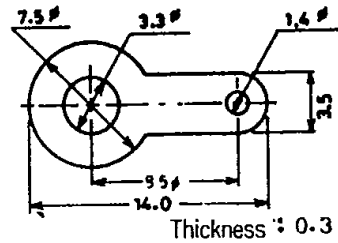
Case Outline-[0013]
unit:mm



JIS No. B1111 M3X0.5

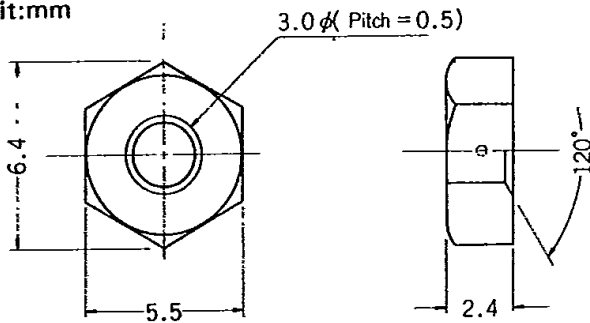
Case Outline-[0018]
unit:mm

T=91-20



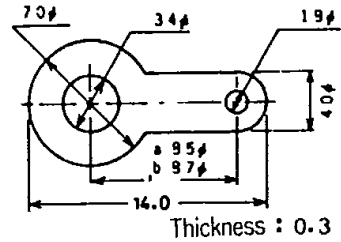
SANYO Lug 1.4

Case Outline-[0014]
unit:mm



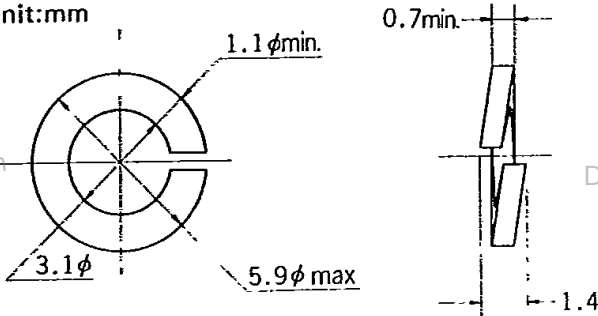
JIS No. B1181 M3X0.5

Case Outline-[0019]
unit:mm



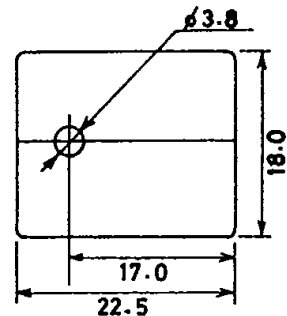
SANYO Lug 1.8φ

Case Outline-[0015]
unit:mm



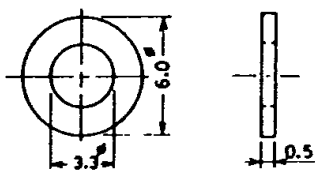
JIS No. B 1251 Spring washer (M3)

Case Outline-[0020]
unit:mm



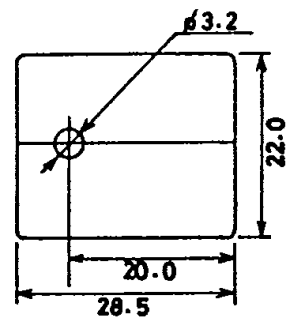
SANYO IS-3MP Mica

Case Outline-[0016]
unit:mm



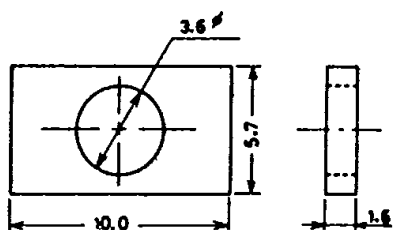
JIS No. B1252 Flat washer

Case Outline-[0021]
unit:mm



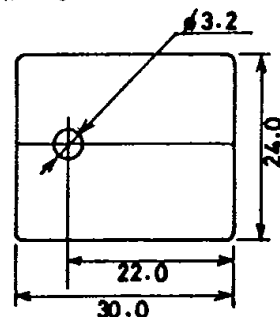
SANYO IS-MPC Mica

Case Outline-[0017]
unit:mm



JIS No. G3141 Rectangular washer

Case Outline-[0022]
unit:mm



SANYO IS-3PBL Mica