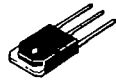


T-33-13

2SD1403



2022

NPN Triple Diffused Planar Silicon Transistor

Color TV Horizontal Deflection Output Applications

©1270B

Features:

- High breakdown voltage and high reliability
- High switching speed
- Capable of being mounted easily due to one-point fixing-type plastic mold package

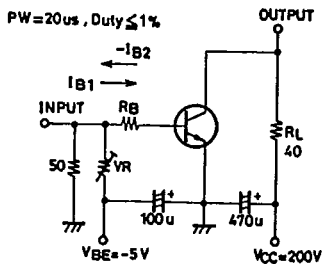
Absolute Maximum Ratings at Ta=25°C

| | | | unit |
|------------------------------|------------------|--------------------------|------|
| Collector to Base Voltage | V _{CB0} | 1500 | V |
| Collector to Emitter Voltage | V _{CEO} | 800 | V |
| Emitter to Base Voltage | V _{EBO} | 7 | V |
| Collector Current | I _C | 6 | A |
| Peak Collector Current | i _{cp} | 16 | A |
| Collector Dissipation | P _C | T _C =25°C 120 | W |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature | T _{stg} | -55 to +150 | °C |

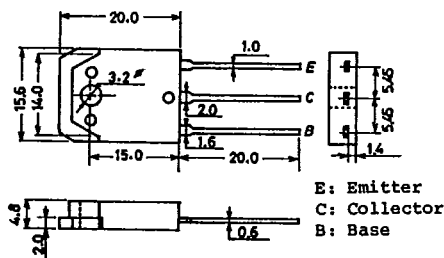
Electrical Characteristics at Ta=25°C

| | | | min | typ | max | unit |
|--------------------------|----------------------|---|------|-----|-----|------|
| Collector Cutoff Current | I _{CB0} | V _{CB} =800V, I _E =0 | | | 10 | uA |
| Emitter Cutoff Current | I _{EBO} | V _{EB} =5V, I _C =0 | | | 1 | mA |
| DC Current Gain | h _{FE} | V _{CE} =5V, I _C =1A | 8 | | | |
| Gain Bandwidth Product | f _T | V _{CE} =10V, I _C =1A | | 3 | | MHz |
| C-E Saturation Voltage | V _{CE(sat)} | I _C =5A, I _B =1A | | | 5 | V |
| B-E Saturation Voltage | V _{BE(sat)} | I _C =5A, I _B =1A | | | 1.5 | V |
| C-B Breakdown Voltage | V(BR) _{CBO} | I _C =5mA, I _E =0 | 1500 | | | V |
| C-E Breakdown Voltage | V(BR) _{CEO} | I _C =100mA, R _{BE} =∞ | 800 | | | V |
| E-B Breakdown Voltage | V(BR) _{EBO} | I _E =200mA, I _C =0 | 7 | | | V |
| Fall Time | t _f | I _C =5A, I _{B1} =1A, I _{B2} =-2A | | | 0.4 | us |

Switching Time Test Circuit

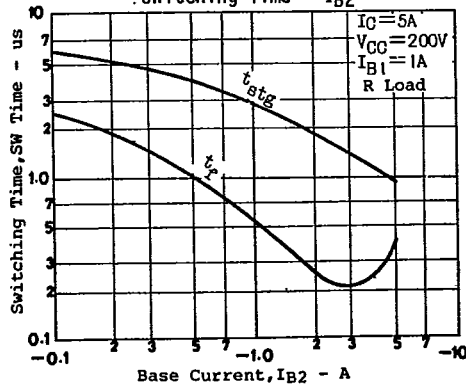
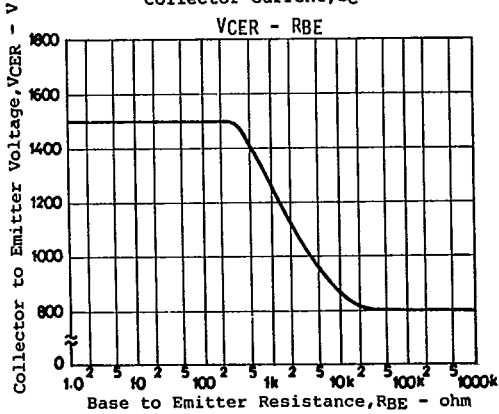
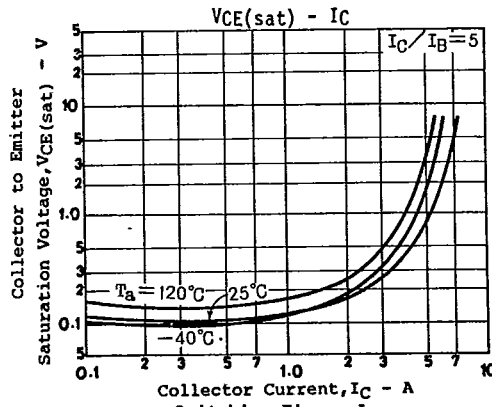
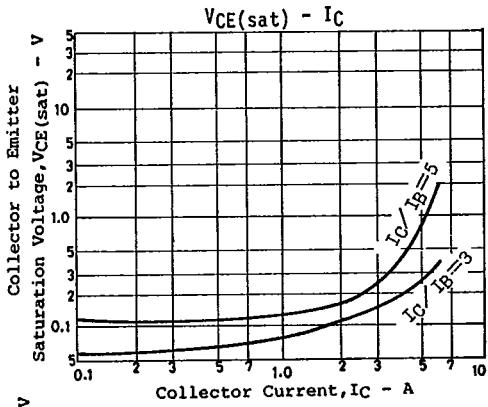
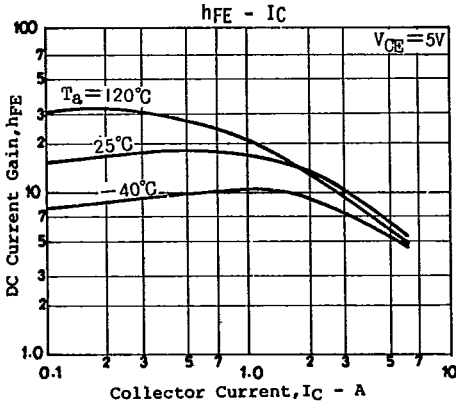
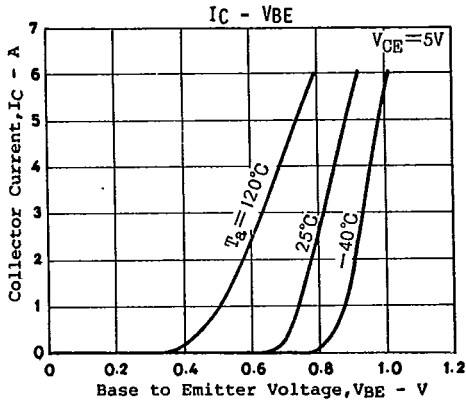
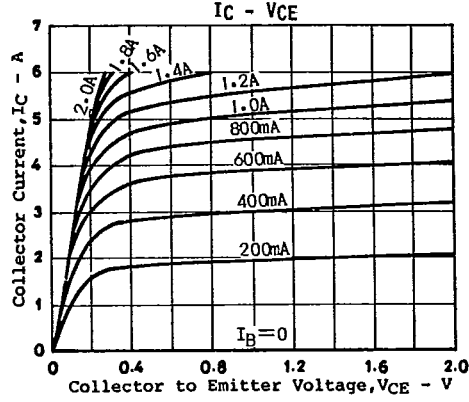
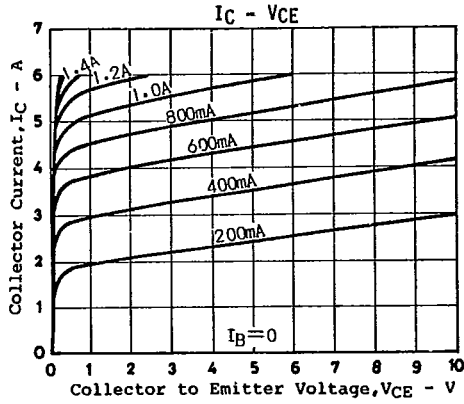


Case Outline 2022 (unit:mm)

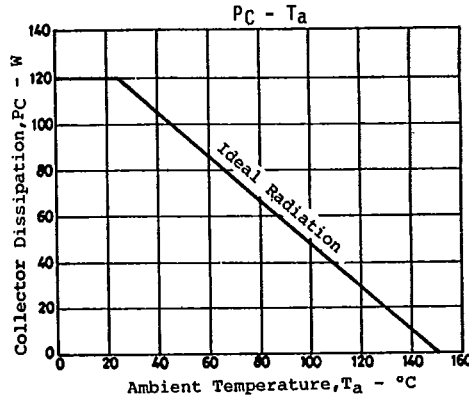
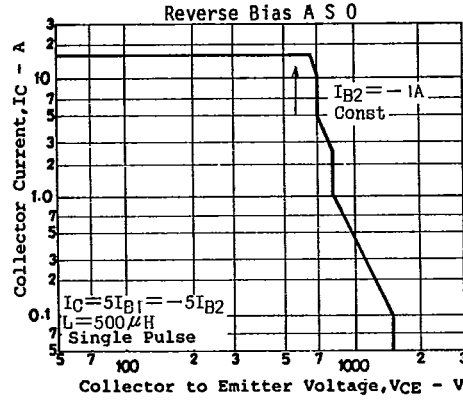
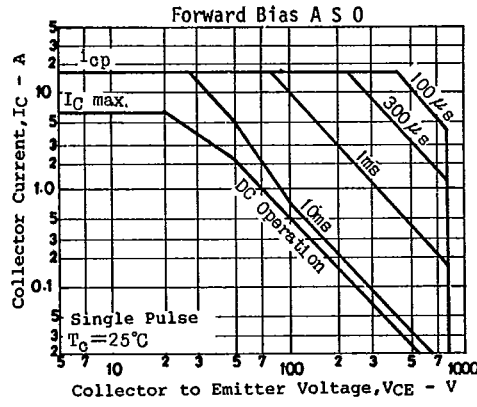


2SD1403

T-33-13



2SD1403



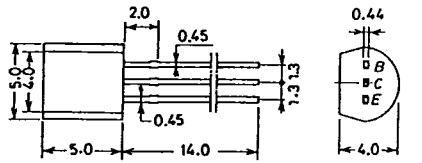
T-91-20

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

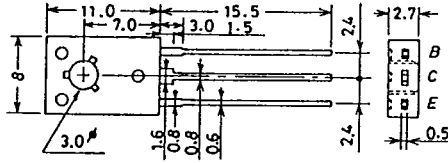


JEDEC: TO-92
EIAJ: SC-43
SANYO: NP

B. Base
C. Collector
E. Emitter

Case Outline-[2009A]

unit:mm

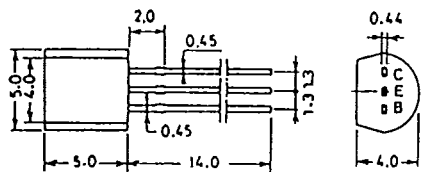


JEDEC: TO-126

B: Base
C: Collector
E: Emitter

Case Outline-[2004A]

unit:mm

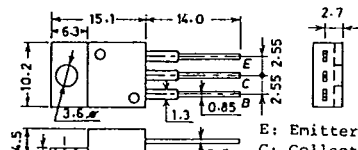


JEDEC: TO-92
EIAJ: SC-43
SANYO: NP

C. Collector
E. Emitter
B. Base

Case Outline-[2010A]

unit:mm

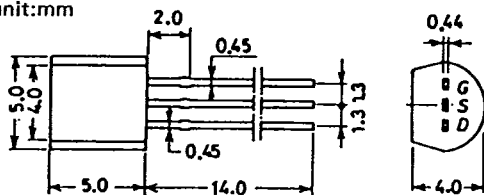


JEDEC: TO-220AB
EIAJ: SC-46

E: Emitter
C: Collector
B: Base

Case Outline-[2005A]

unit:mm

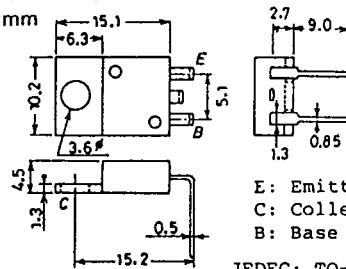


JEDEC: TO-92
EIAJ: SC-43
SANYO: NP

G: Gate
S: Source
D: Drain
B: Base
C: Collector

Case Outline-[2012]

unit:mm

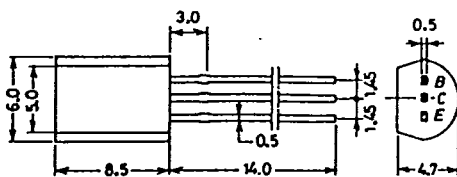


JEDEC: TO-220AA
EIAJ: SC-45

E: Emitter
C: Collector
B: Base

Case Outline-[2006A]

unit:mm

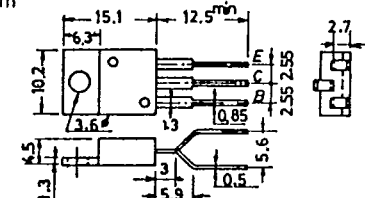


EIAJ: SC-51
SANYO: MP

B: Base
C: Collector
E: Emitter

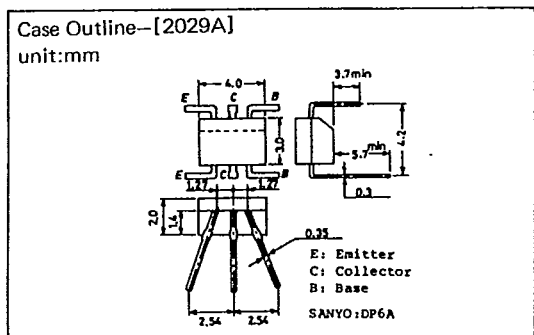
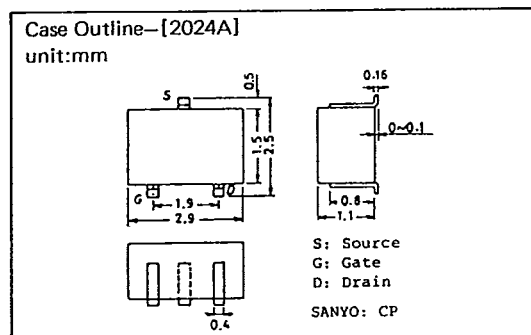
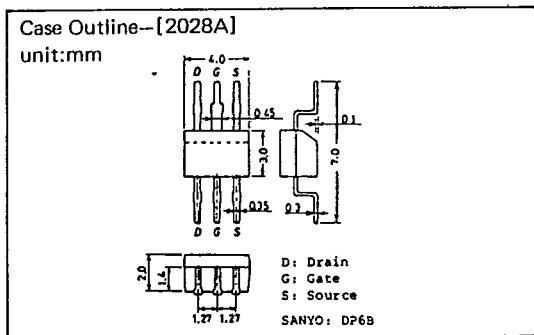
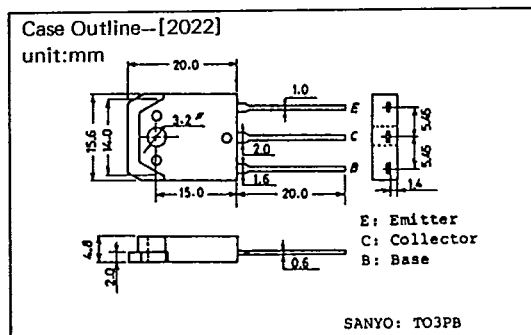
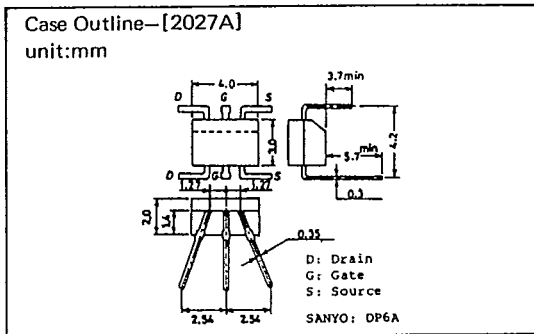
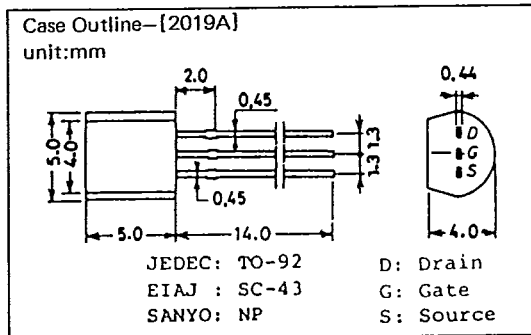
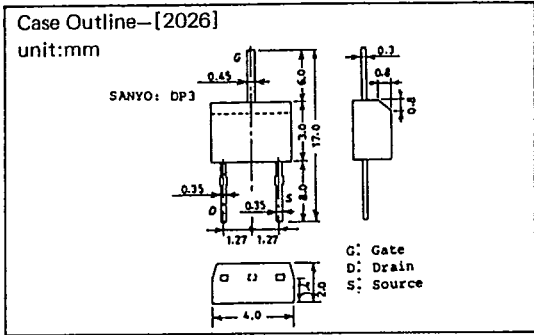
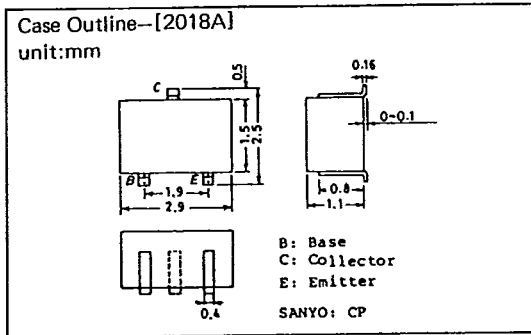
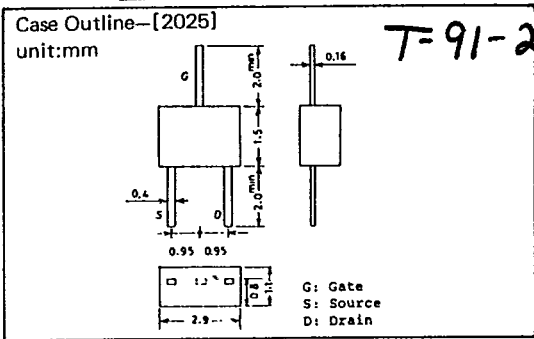
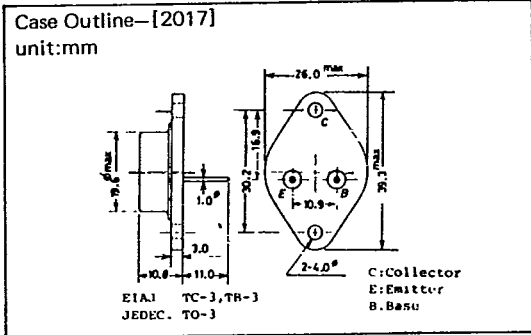
Case Outline-[2013]

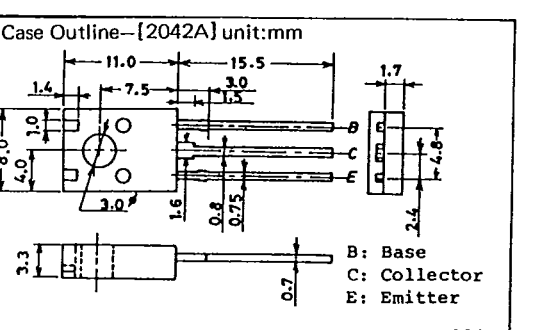
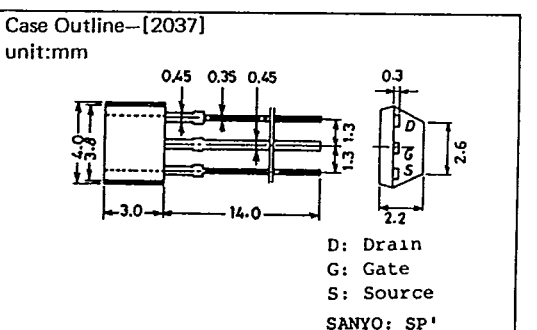
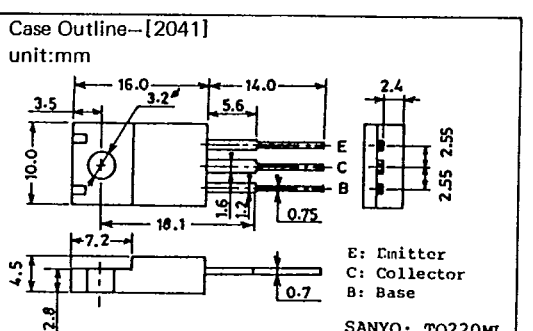
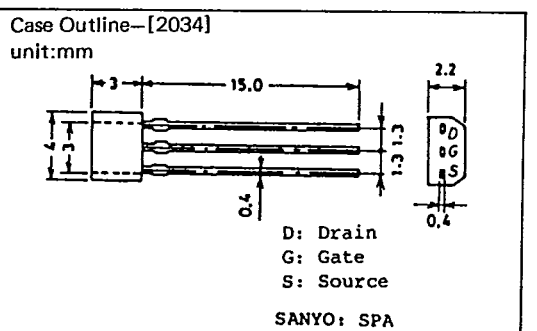
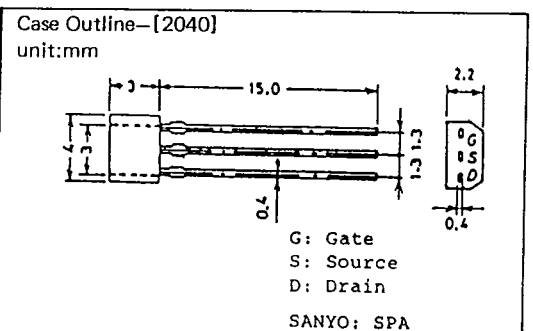
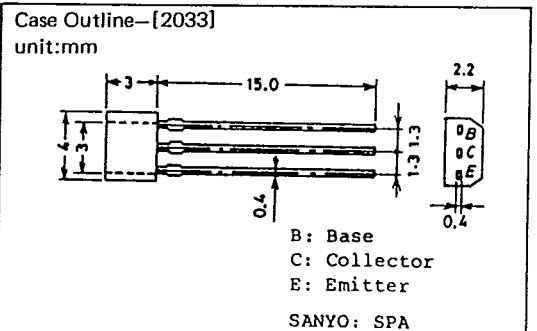
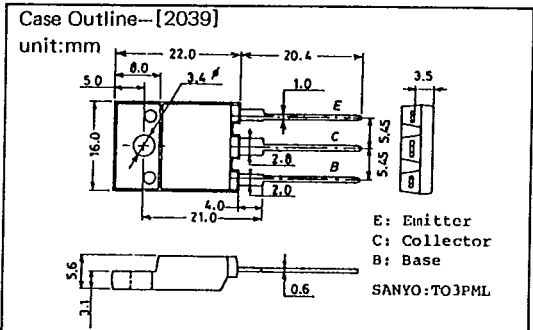
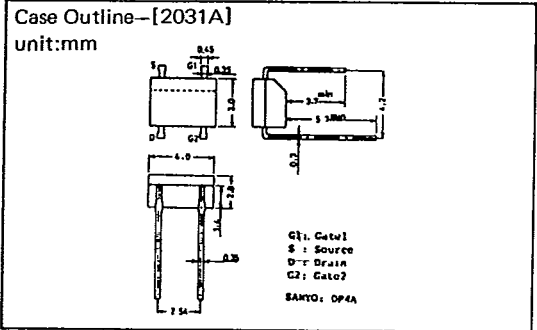
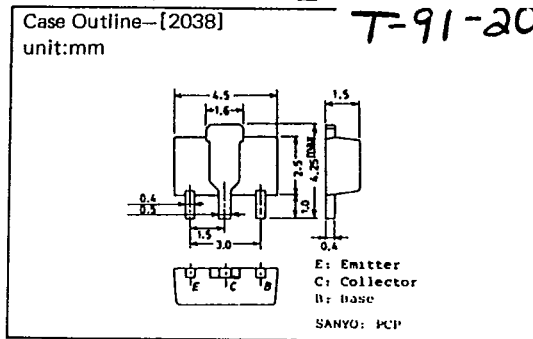
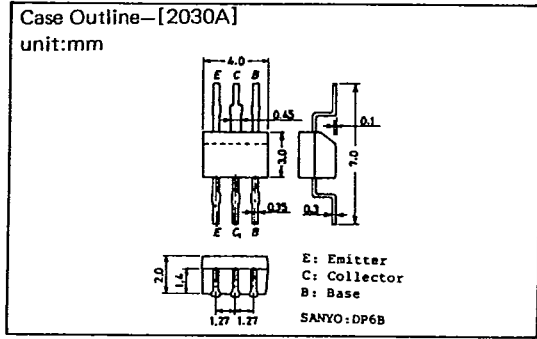
unit:mm



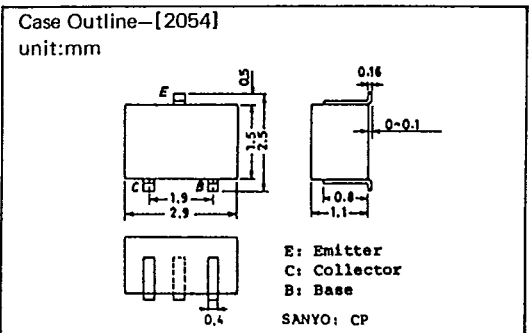
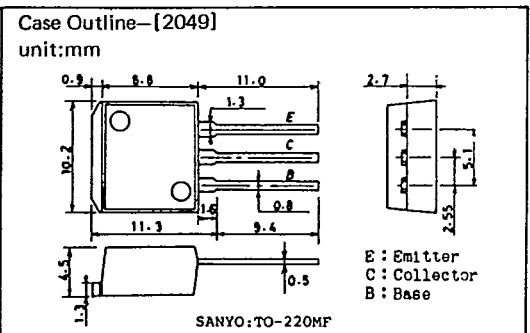
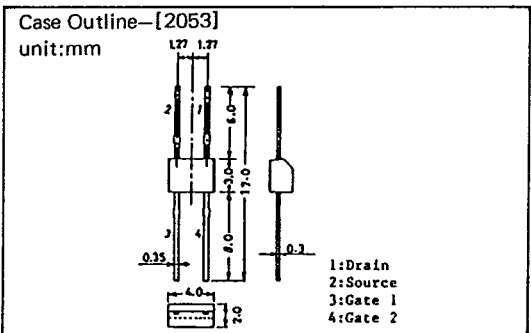
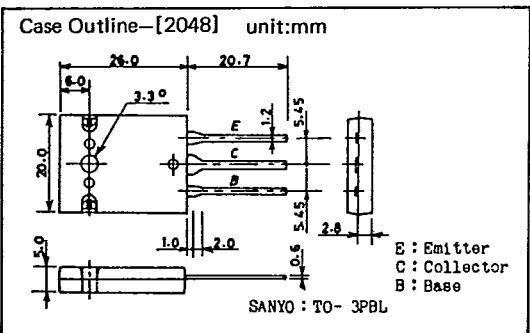
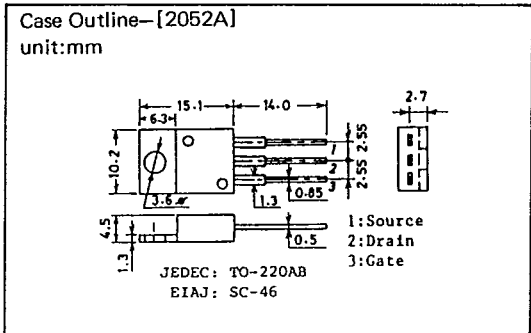
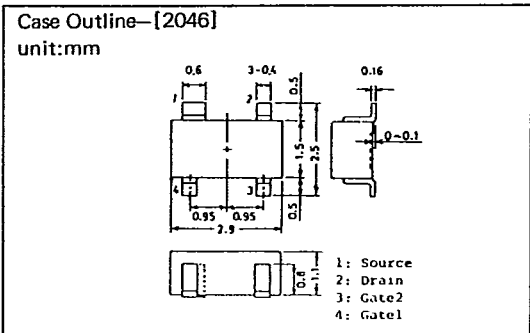
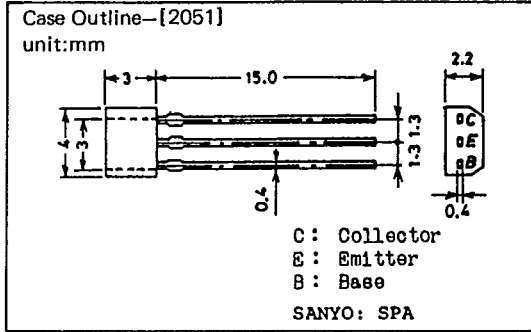
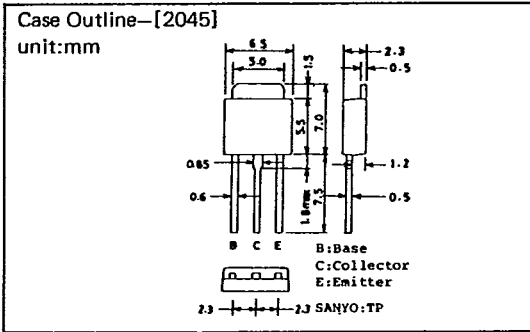
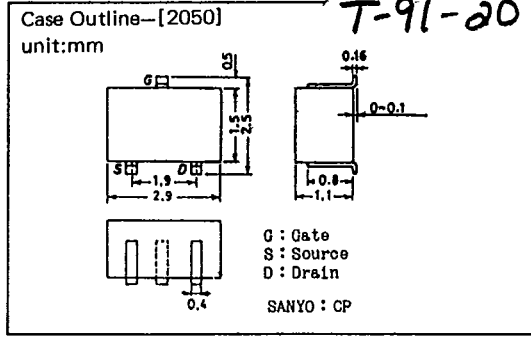
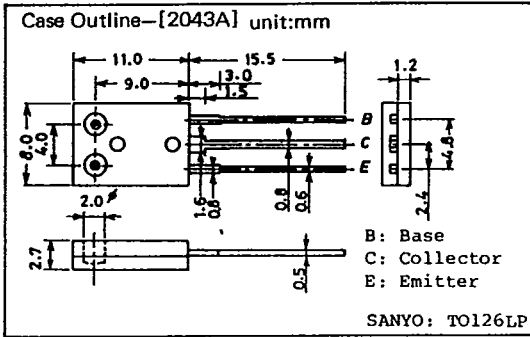
JEDEC TO-220

B: Base
C: Collector
E: Emitter

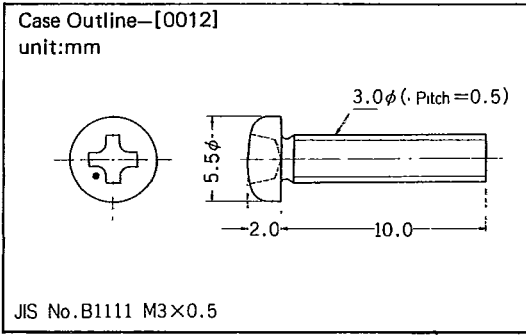
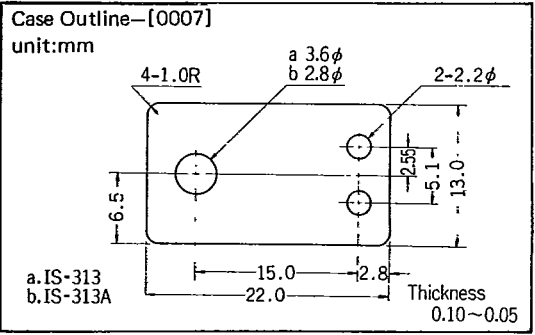
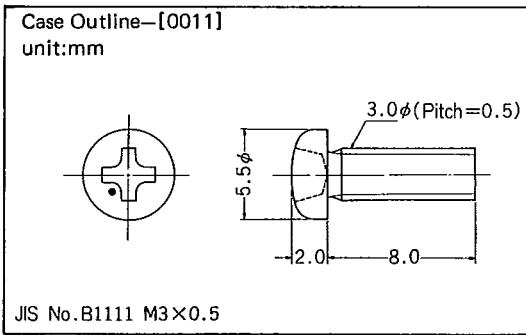
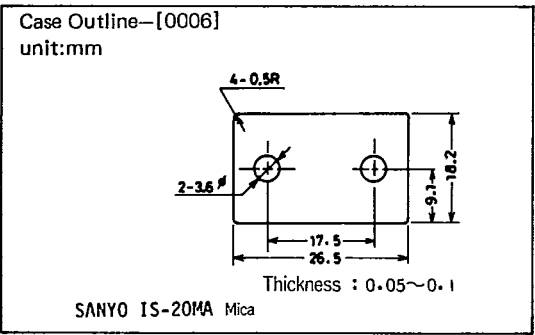
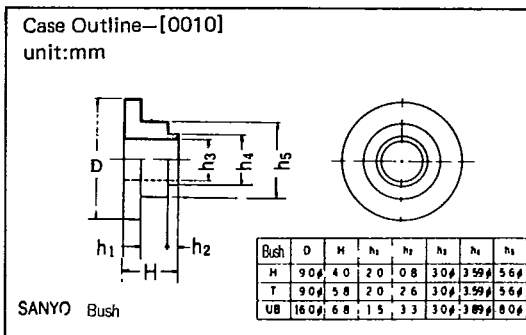
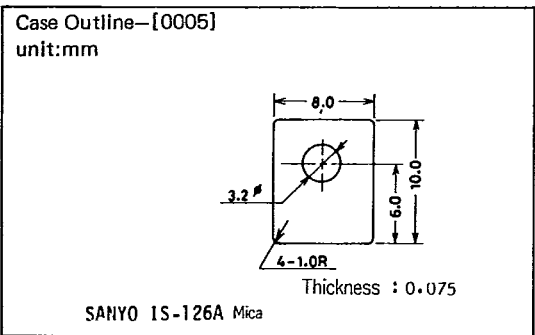
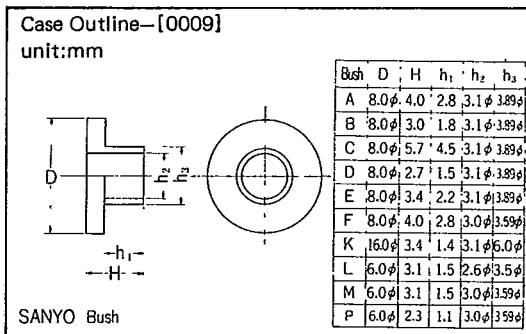
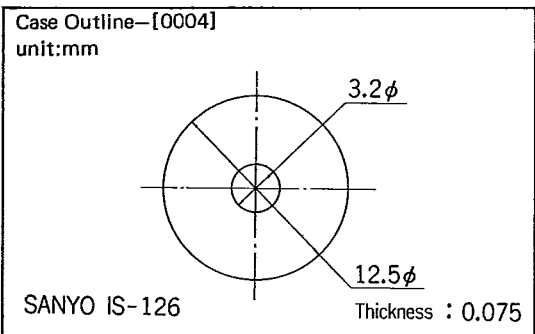
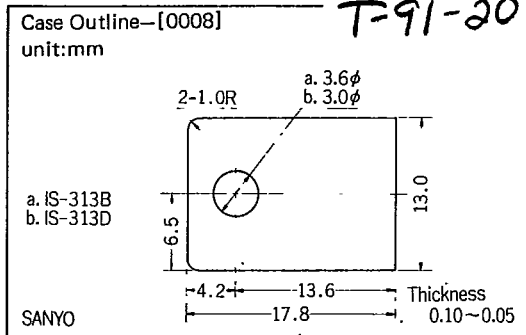
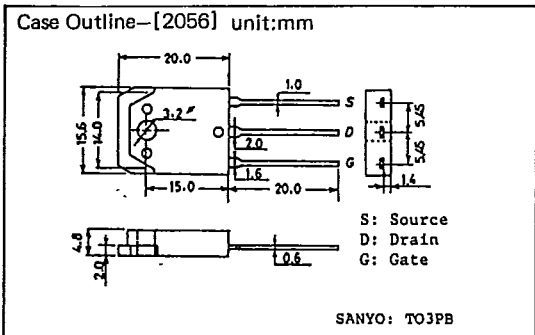




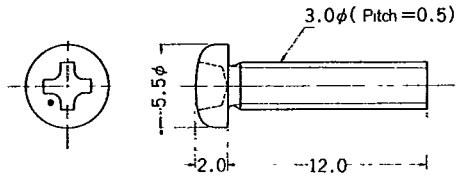
T-91-20



T-91-20

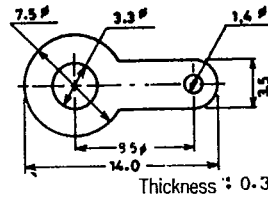


Case Outline-[0013]
unit:mm



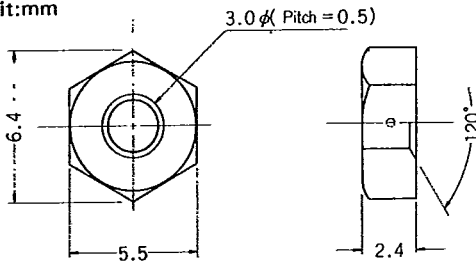
JIS No. B1111 M3×0.5

Case Outline-[0018]
unit:mm



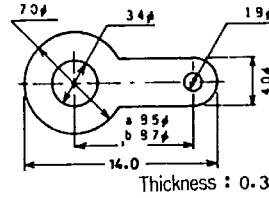
SANYO Lug 1.4

Case Outline-[0014]
unit:mm



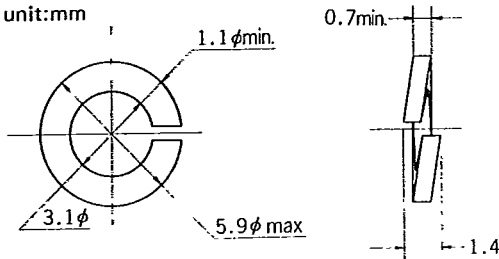
JIS No. B1181 M3×0.5

Case Outline-[0019]
unit:mm



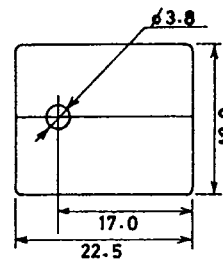
SANYO Lug 1.8φ

Case Outline-[0015]
unit:mm



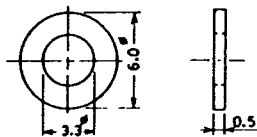
JIS No. B 1251 Spring washer (M3)

Case Outline-[0020]
unit:mm



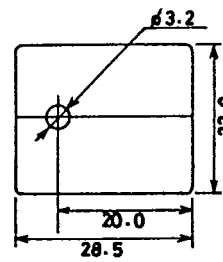
SANYO IS-3MP Mica

Case Outline-[0016]
unit:mm



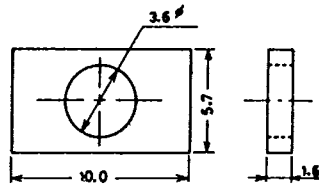
JIS No. B1252 Flat washer

Case Outline-[0021]
unit:mm



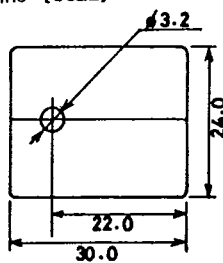
SANYO IS-MPC Mica

Case Outline-[0017]
unit:mm



JIS No. G3141 Rectangular washer

Case Outline-[0022]
unit:mm



SANYO IS-3PBL Mica