

T-27-21

# 2SA1210



2009A

PNP/NPN Epitaxial Planar Silicon Transistors

# 2SC2912

## High Voltage Switching, AF 150W Predriver Applications

©780C

**Features**

- Adoption of FBET process
- High breakdown voltage
- Good linearity of  $h_{FE}$  and small  $c_{ob}$
- Fast switching speed

( ): 2SA1210

**Absolute Maximum Ratings/ $T_a = 25^\circ\text{C}$**

Parameter	Symbol	Value	unit
Collector to base voltage	VCBO	(-)200	V
Collector to emitter voltage	VCEO	(-)200	V
Emitter to base voltage	VEBO	(-)5	V
Collector current	IC	(-)140	mA
Peak collector current	icp	(-)200	mA
Collector dissipation	PC	1	W
		10	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 ~ +150	°C

$T_c = 25^\circ\text{C}$

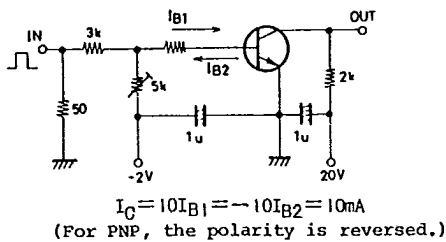
**Electrical Characteristics/ $T_a = 25^\circ\text{C}$**

Parameter	Symbol	Test Conditions	min	typ	max	unit
Collector cutoff current	ICBO	VCB = (-)160 V, $I_E = 0$			(-)0.1	$\mu\text{A}$
Emitter cutoff current	IEBO	VEB = (-)4 V, $I_C = 0$			(-)0.1	$\mu\text{A}$
Common emitter DC current gain	$h_{FE}$	VCE = (-)5 V, $I_C = (-) 10 \text{ mA}$	100*		400*	
Gain band-width product	fT	VCE = (-)10 V, $I_C = (-) 10 \text{ mA}$		150		MHz
Common base output capacitance	cob	VCB = (-)10 V, $f = 1 \text{ MHz}$		(4.0)		pF
				3.0		
Collector to emitter saturation voltage	VCE(sat)	$I_C = (-)50 \text{ mA}$ , $I_B = (-)5 \text{ mA}$	(-0.14)	(-0.4)		V
			0.07	0.3		
Turn-on time	Ton	At specified test circuit		0.1		$\mu\text{s}$
Storage time	tstg	At specified test circuit		1.5		$\mu\text{s}$
Fall time	tf	At specified test circuit		0.1		$\mu\text{s}$

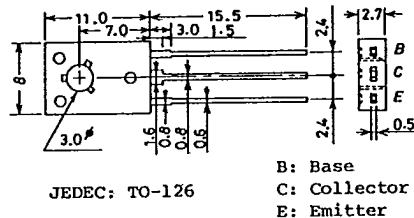
\*: The 2SA1210/2SC2912 are classified by 10 mA  $h_{FE}$  as follows:

100 R	200	140 S	280	200 T	400
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**Switching Time Test Circuit**



**Case Outline 2009A (unit: mm)**

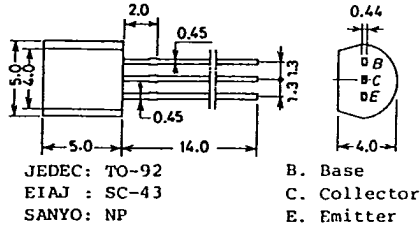


For details, refer to the description of the 2SC2912.

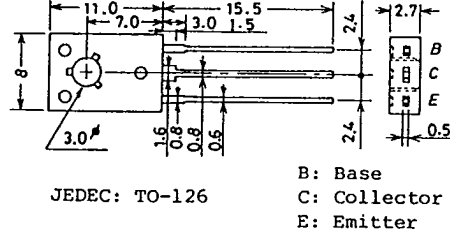
# CASE OUTLINES AND ATTACHMENTS

- 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.

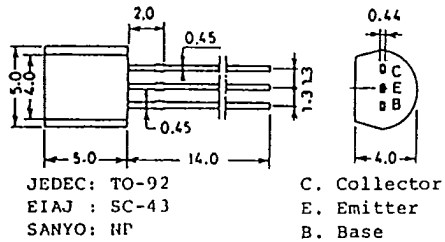
Case Outline-[2003A]  
unit:mm



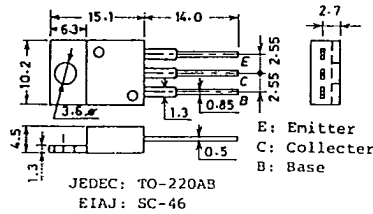
Case Outline-[2009A]  
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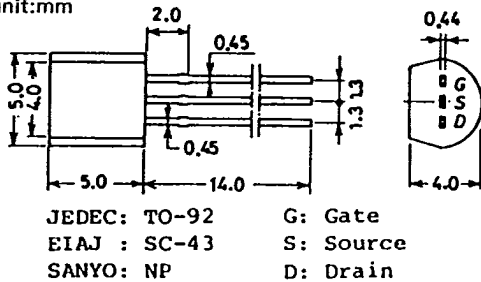
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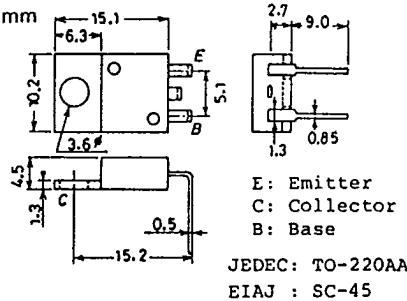
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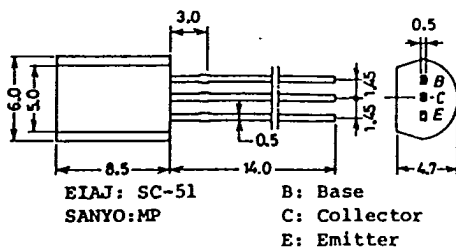
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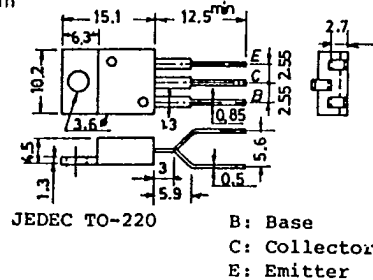
Case Outline-[2012]  
unit:mm

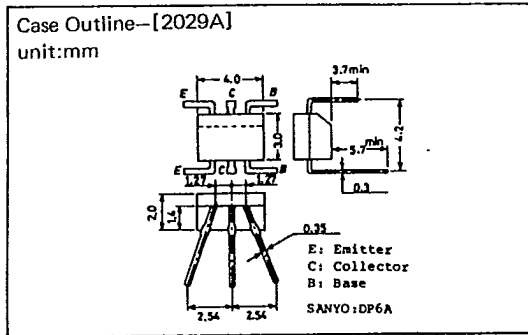
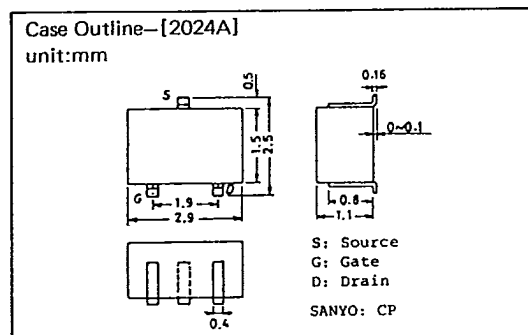
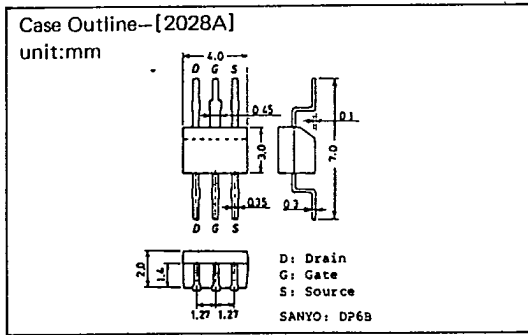
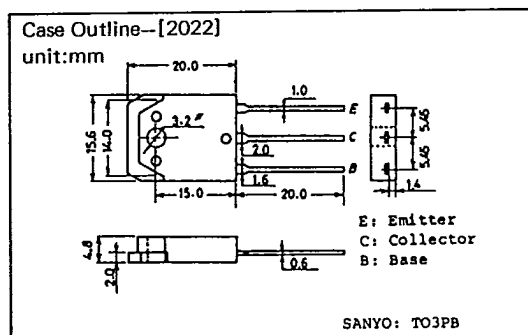
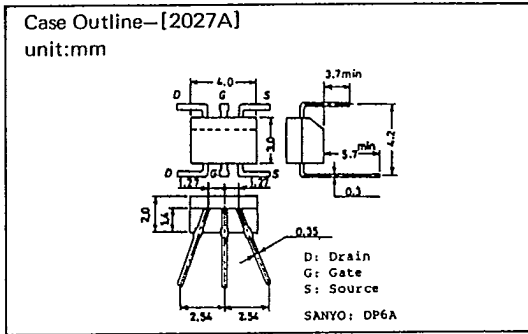
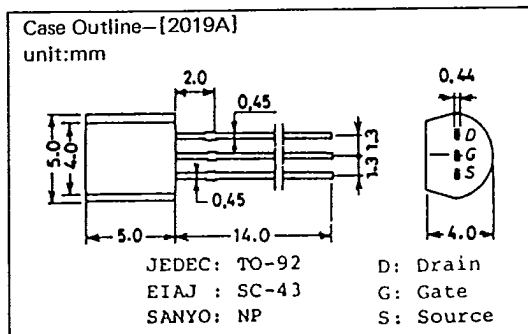
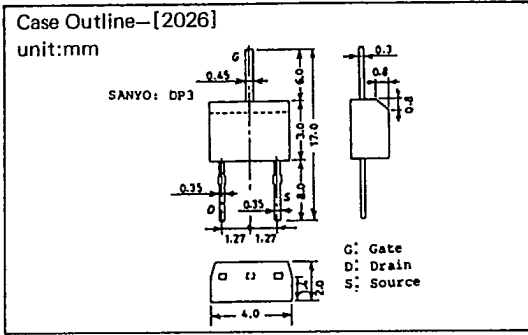
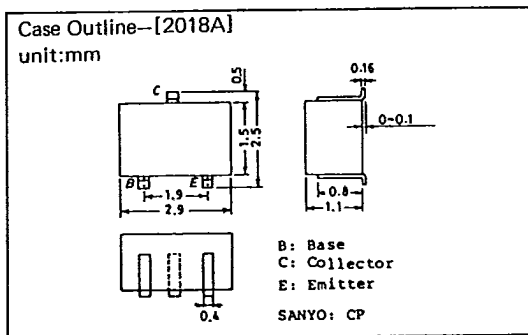
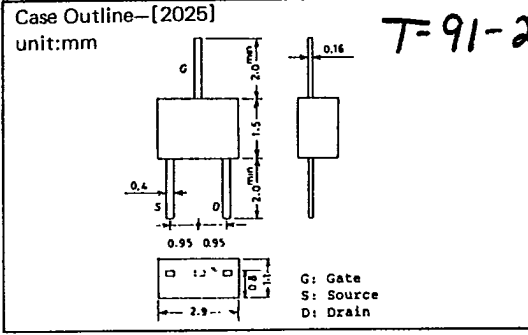
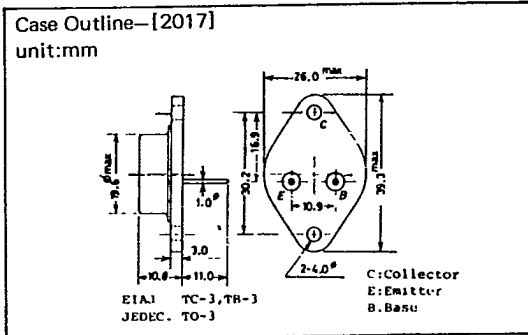


Case Outline-[2006A]  
unit:mm

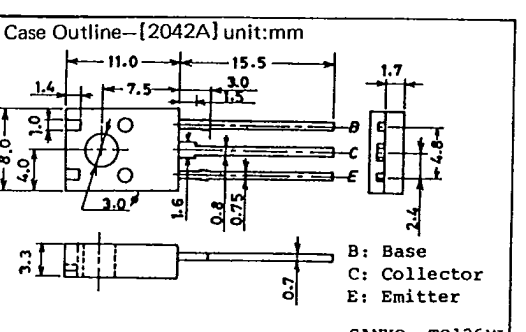
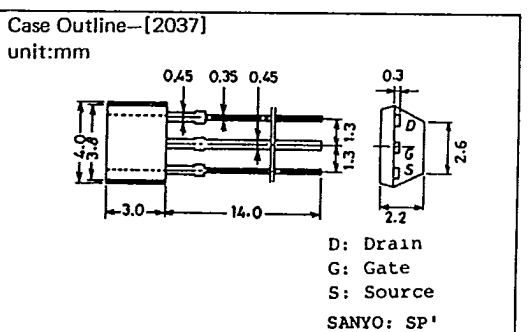
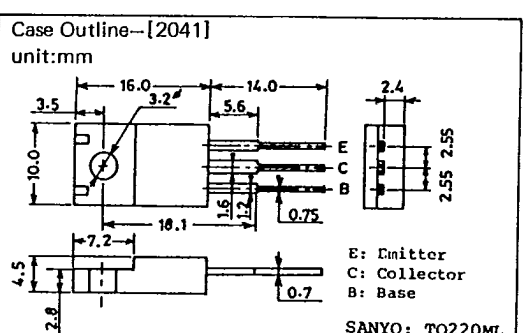
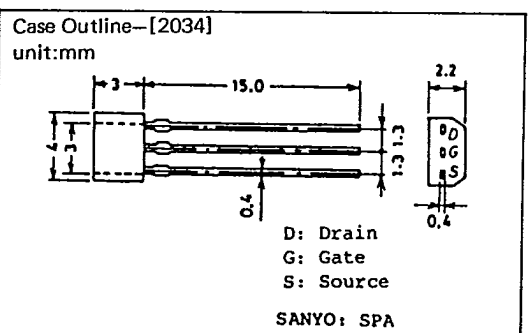
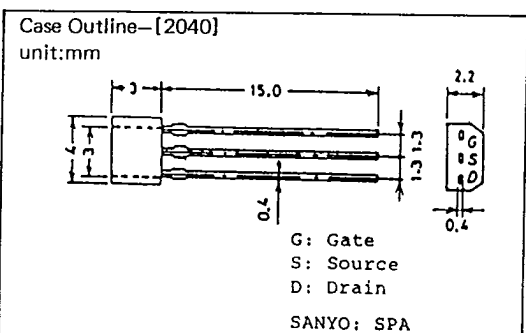
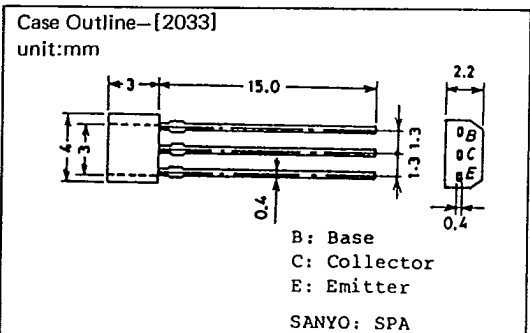
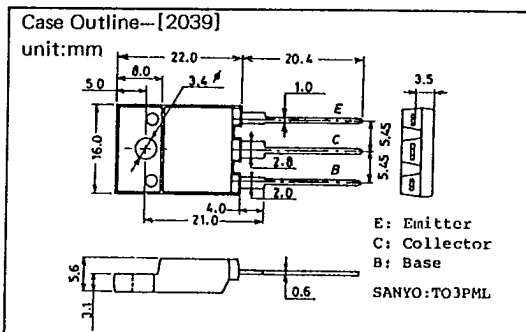
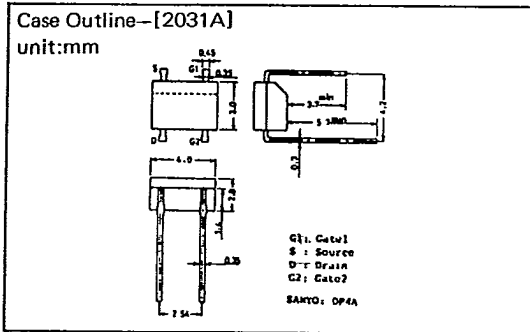
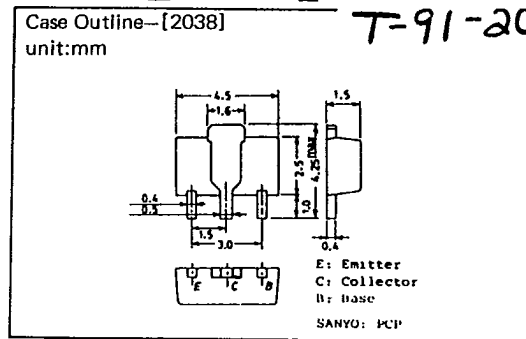
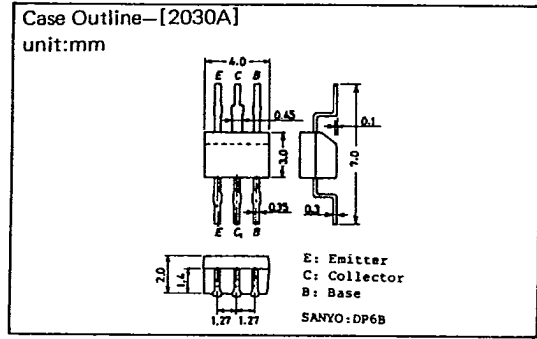


Case Outline-[2013]  
unit:mm

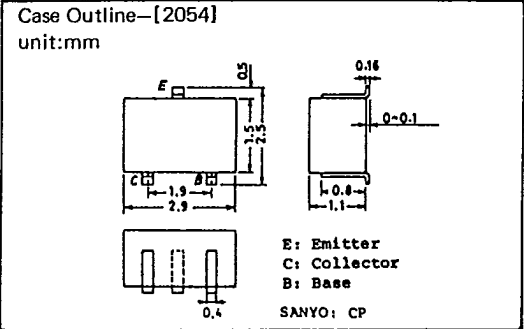
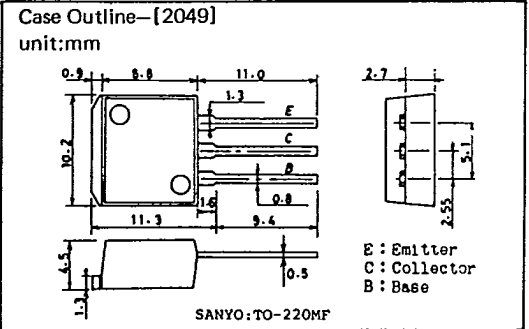
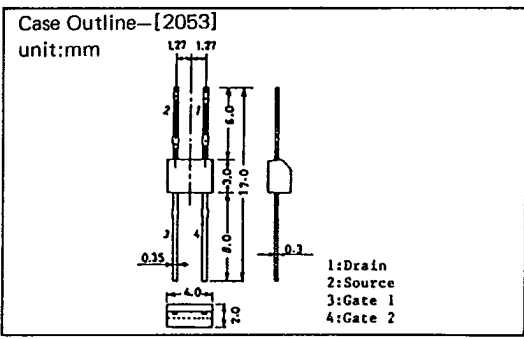
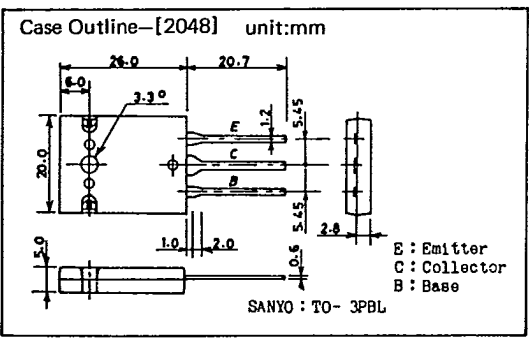
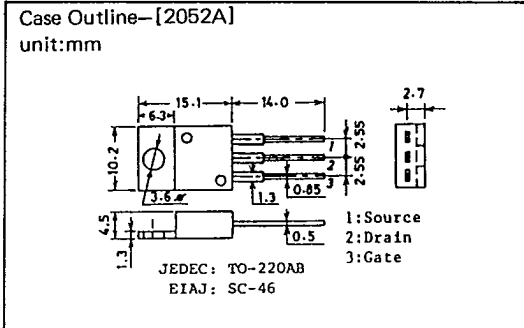
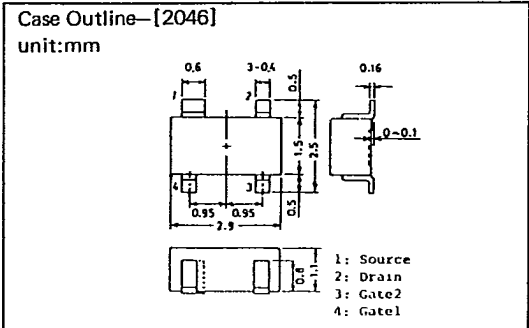
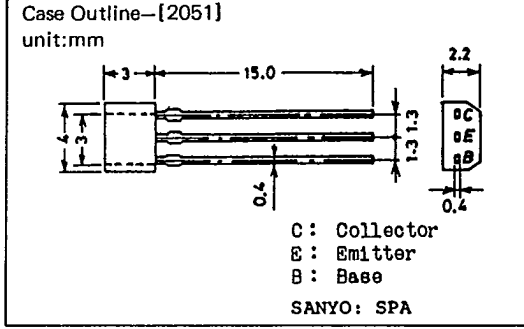
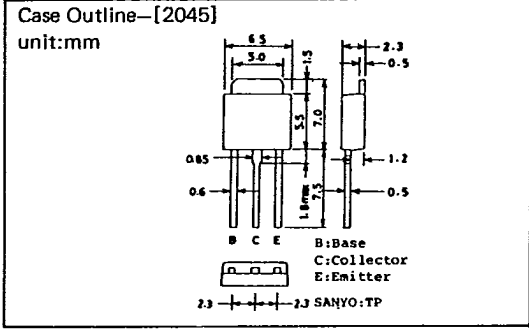
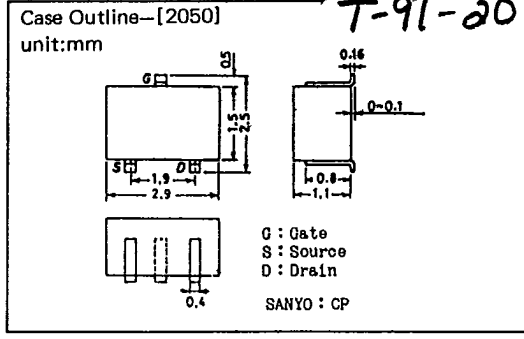
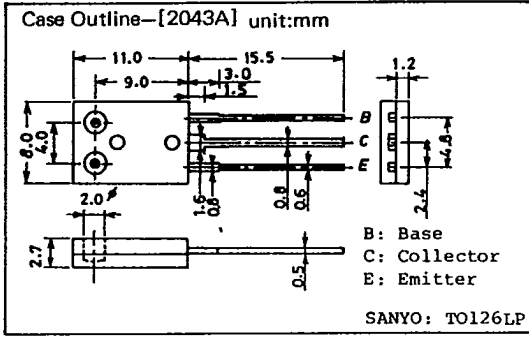


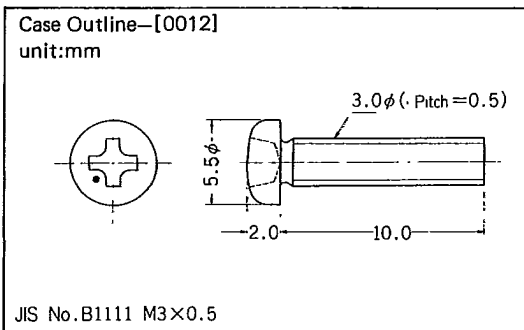
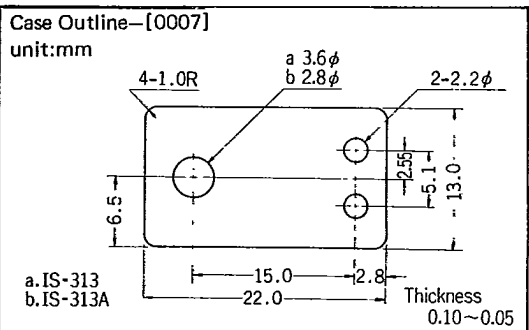
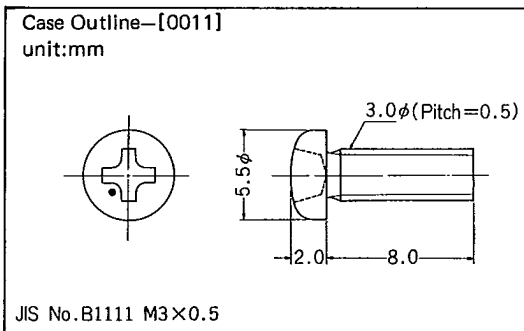
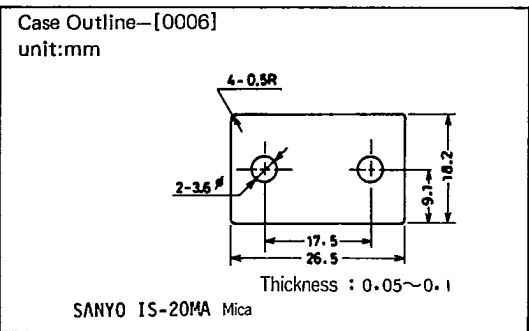
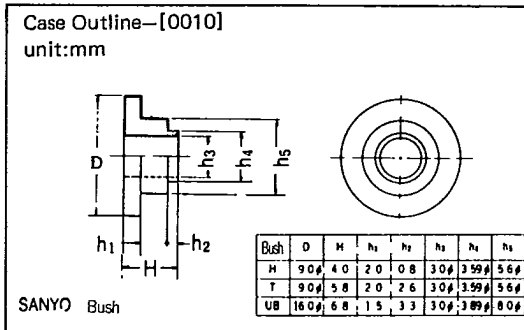
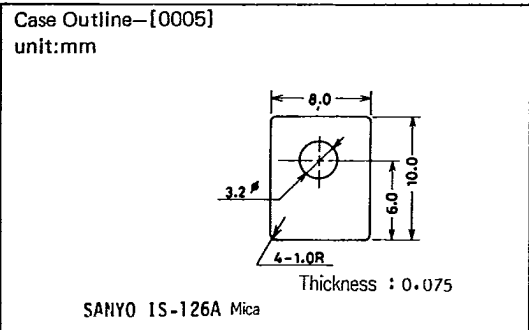
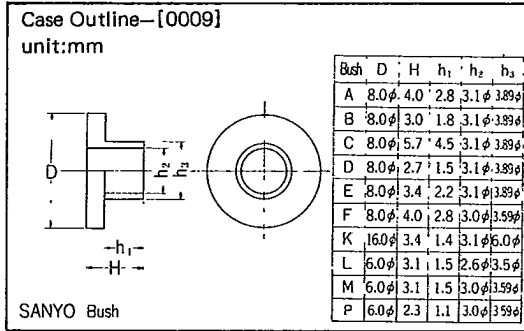
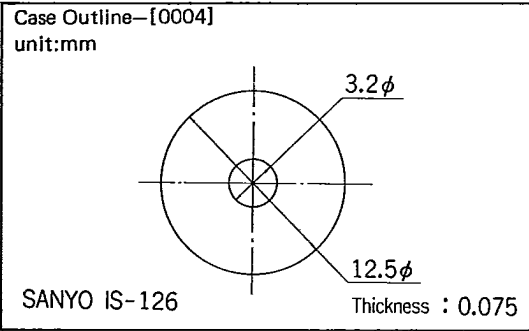
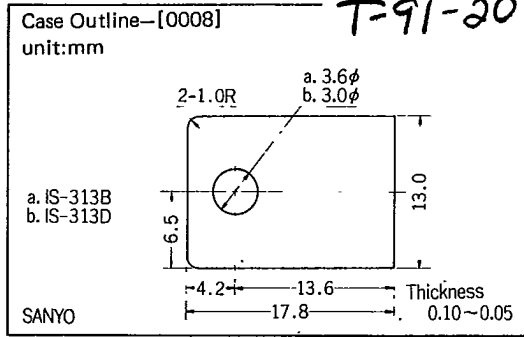
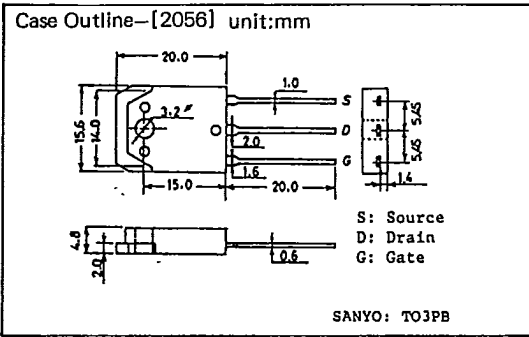


T-91-20

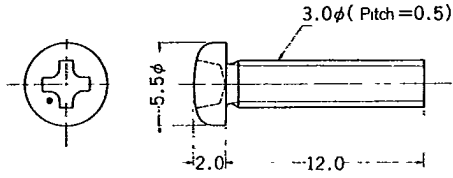


T-91-20



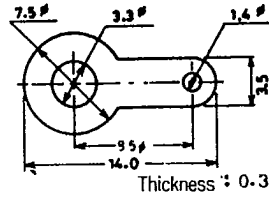


Case Outline-[0013]  
unit:mm



JIS No. B1111 M3×0.5

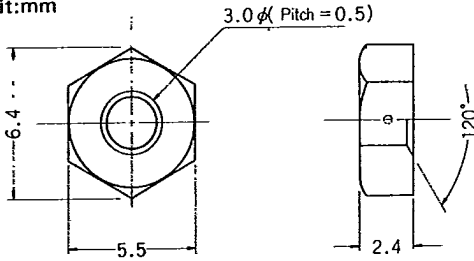
Case Outline-[0018]  
unit:mm



SANYO Lug 1.4

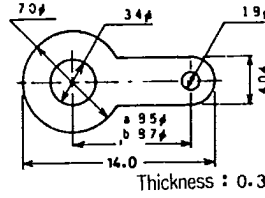
T=91-20

Case Outline-[0014]  
unit:mm



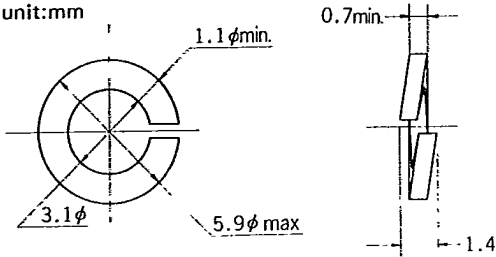
JIS No. B1181 M3×0.5

Case Outline-[0019]  
unit:mm



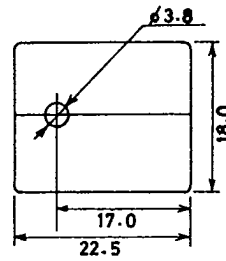
SANYO Lug 1.8φ

Case Outline-[0015]  
unit:mm



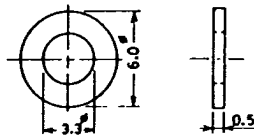
JIS No. B 1251 Spring washer (M3)

Case Outline-[0020]  
unit:mm



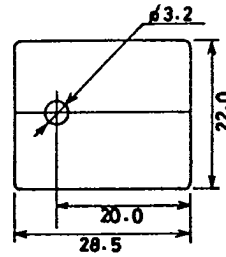
SANYO IS-3MP Mica

Case Outline-[0016]  
unit:mm



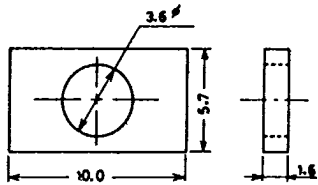
JIS No. B1252 Flat washer

Case Outline-[0021]  
unit:mm



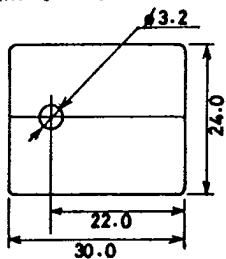
SANYO IS-MPC Mica

Case Outline-[0017]  
unit:mm



JIS No. G3141 Rectangular washer

Case Outline-[0022]  
unit:mm



SANYO IS-3PBL Mica