

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

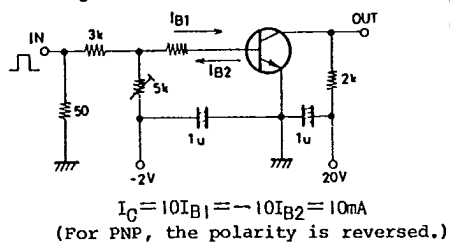
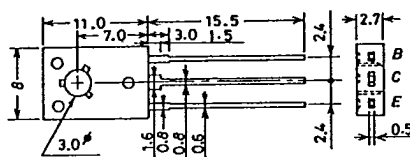
Collector to base voltage	V_{CB0}	(-)200	V	unit
Collector to emitter voltage	V_{CE0}	(-)200	V	
Emitter to base voltage	V_{EB0}	(-)5	V	
Collector current	I_C	(-)140	mA	
Peak collector current	i_{cp}	(-)200	mA	
Collector dissipation	P_C	1	W	
		10	W	$T_c = 25^\circ\text{C}$
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$	

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

			min	typ	max	unit
Collector cutoff current	I_{CBO}	$V_{CB} = (-)160, I_E = 0$			(-)0.1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = (-)4 \text{ V}, I_C = 0$			(-)0.1	μA
Common emitter DC current gain	h_{FE}	$V_{CE} = (-)5 \text{ V}, I_C = (-)10 \text{ mA}$	100*		400*	
Gain band-width product	f_T	$V_{CE} = (-)10 \text{ V}, I_C = (-)10 \text{ mA}$		150		MHz
Common base output capacitance	c_{ob}	$V_{CB} = (-)10 \text{ V}, f = 1 \text{ MHz}$		(4.0)		pF
				3.0		
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = (-)50 \text{ mA}, I_B = (-)5 \text{ mA}$	(-0.14)	(-0.4)		V
			0.07	0.3		
Turn-on time	T_{on}	At specified test circuit		0.1		μs
Storage time	t_{stg}	At specified test circuit		1.5		μs
Fall time	t_f	At specified test circuit		0.1		μs

*: 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)**

JEDEC: TO-126

B: Base
C: Collector
E: Emitter

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

3187AT/3135KI/0193KI, TS # No. 780-1/3

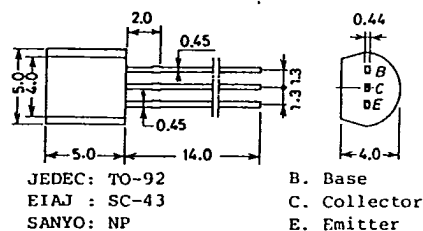
T-91-20

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.

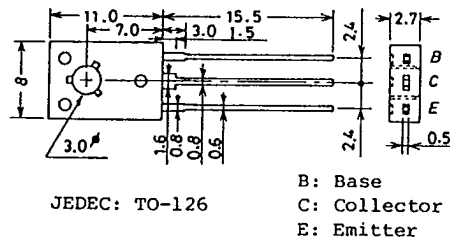
Case Outline—[2003A]

unit:mm



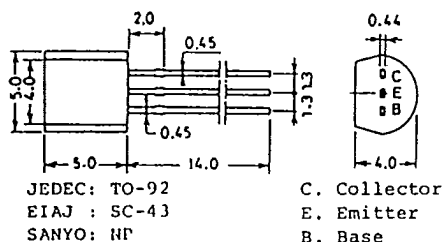
Case Outline—[2009A]

unit:mm



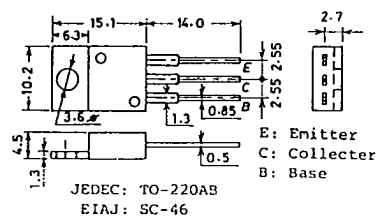
Case Outline—[2004A]

unit:mm



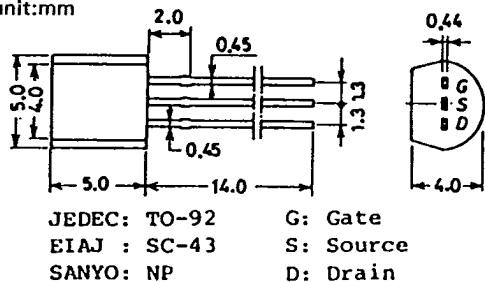
Case Outline—[2010A]

unit:mm



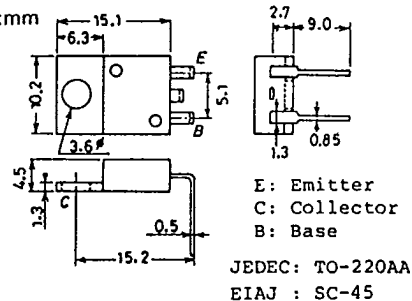
Case Outline—[2005A]

unit:mm



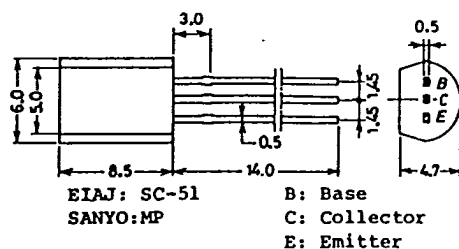
Case Outline—[2012]

unit:mm



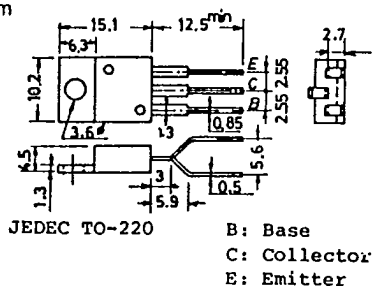
Case Outline—[2006A]

unit:mm



Case Outline—[2013]

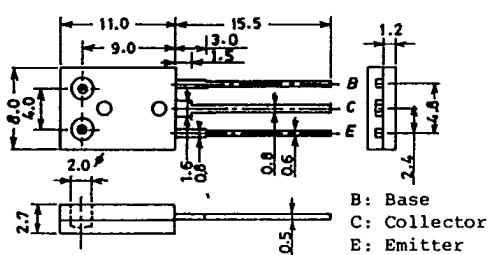
unit:mm



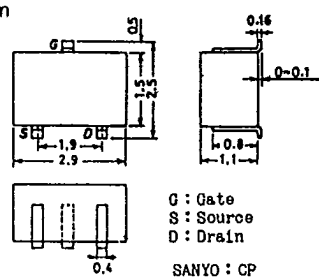
EIAI TC-3, TR-3
JEDEC TO-3

THIS MATERIAL CONTAINED BY IT IS RESTRICTIVE MANUFACTURING

Case Outline—[2043A] unit:mm

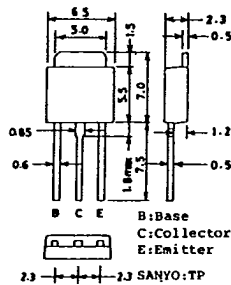


SANYO: TO126LP

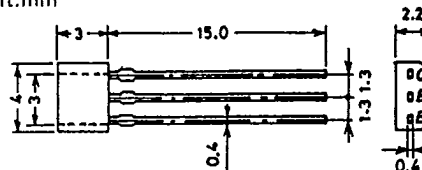
Case Outline—[2050]
unit:mm

SANYO: CP

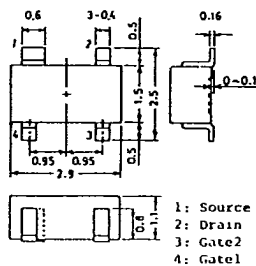
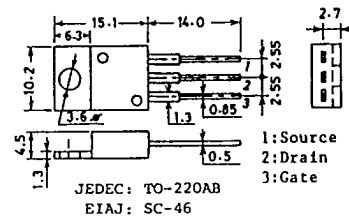
T-91-20

Case Outline—[2045]
unit:mm

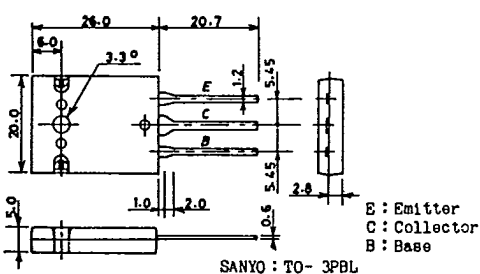
SANYO: TP

Case Outline—[2051]
unit:mm

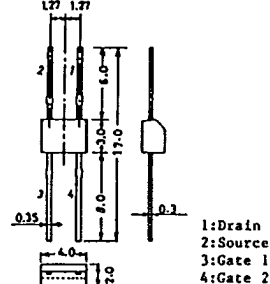
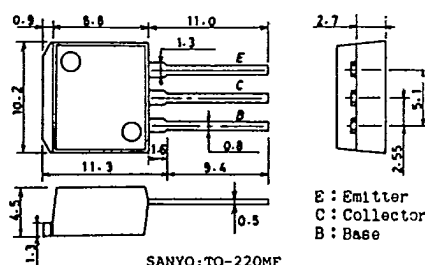
SANYO: SPA

Case Outline—[2046]
unit:mmCase Outline—[2052A]
unit:mmJEDEC: TO-220AB
EIAJ: SC-46

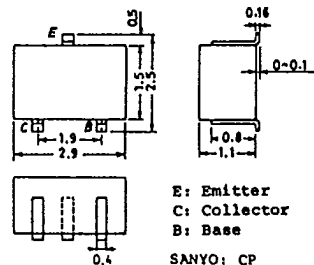
Case Outline—[2048] unit:mm



SANYO: TO-3PBL

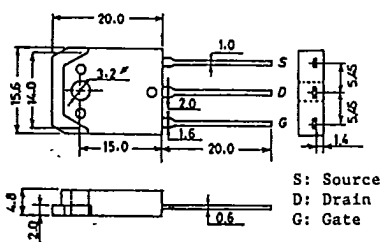
Case Outline—[2053]
unit:mmCase Outline—[2049]
unit:mm

SANYO: TO-220MF

Case Outline—[2054]
unit:mm

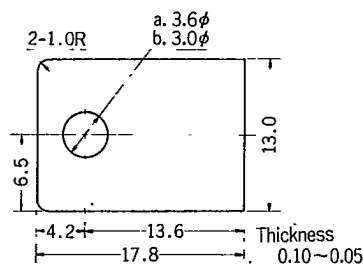
SANYO: CP

Case Outline—[2056] unit:mm

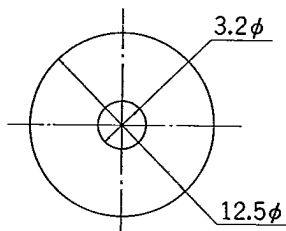


SANYO: TO3PB

Case Outline—[0008] unit:mm

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

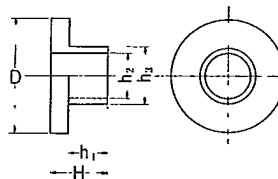
Case Outline—[0004] unit:mm



SANYO IS-126

Thickness : 0.075

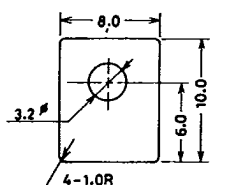
Case Outline—[0009] unit:mm



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

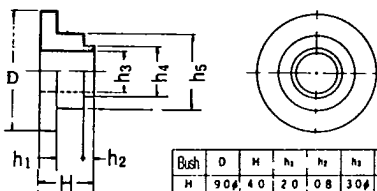
Case Outline—[0005] unit:mm



Thickness : 0.075

SANYO IS-126A Mica

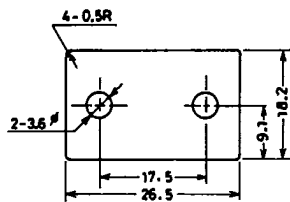
Case Outline—[0010] unit:mm



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

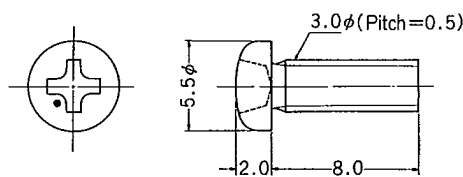
Case Outline—[0006] unit:mm



Thickness : 0.05~0.1

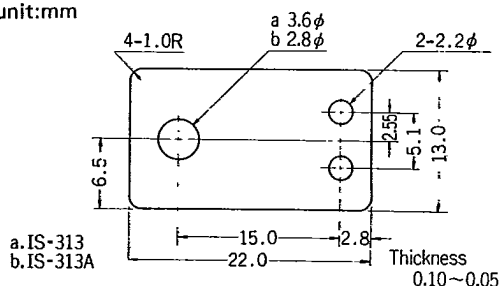
SANYO IS-20MA Mica

Case Outline—[0011] unit:mm

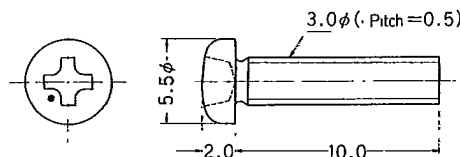


JIS No.B1111 M3×0.5

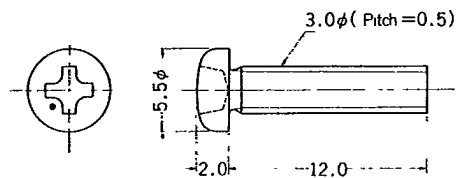
Case Outline—[0007] unit:mm



Case Outline—[0012] unit:mm



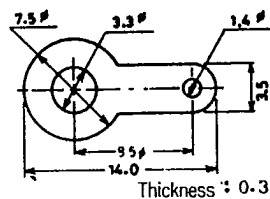
JIS No.B1111 M3×0.5

Case Outline—[0013]
unit:mm

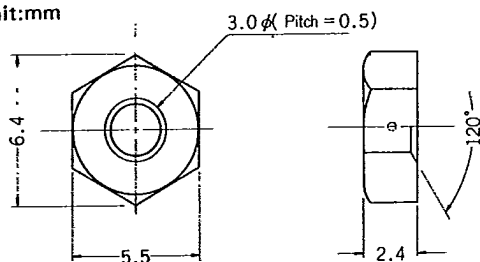
JIS No. B1111 M3×0.5

Case Outline—[0018]
unit:mm

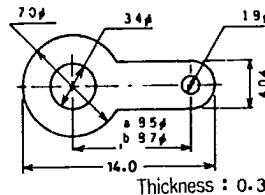
T=91-20



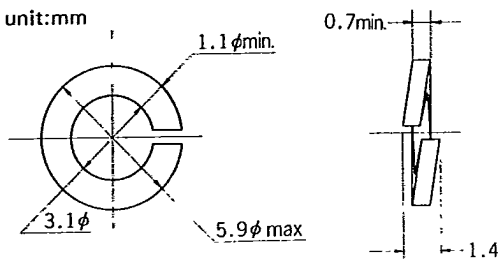
SANYO Lug 1.4

Case Outline—[0014]
unit:mm

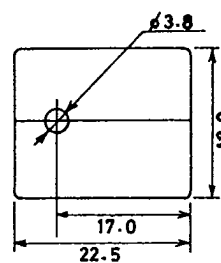
JIS No. B1181 M3×0.5

Case Outline—[0019]
unit:mm

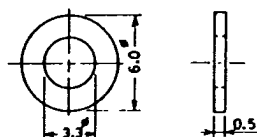
SANYO Lug 1.8φ

Case Outline—[0015]
unit:mm

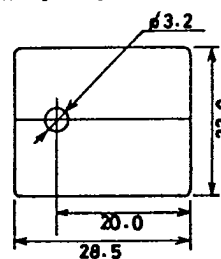
JIS No. B 1251 Spring washer (M3)

Case Outline—[0020]
unit:mm

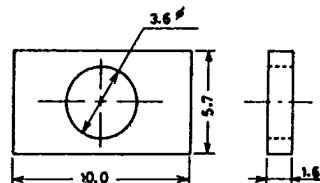
SANYO IS-3MP Mica

Case Outline—[0016]
unit:mm

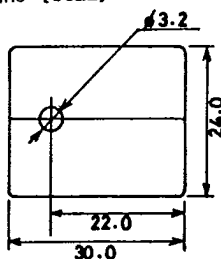
JIS No. B1252 Flat washer

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