

**2SB507,
508**

2010A



2012

PNP/NPN Triple Diffused Planar
Silicon Transistors**2SD313,
314****Low Frequency Power Amp
Applications**

©396E

.2SB507, 2SB508 and 2SD313, 2SD314 are complementary pairs respectively.
 .These are designed for the output stage of 15W to 25W AF power amplifier.
 .2SB507 and 2SB508, or 2SD313 and 2SD314, differ from their case outlines only.

() shows the case of 2SB507, 2SB508 only.

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

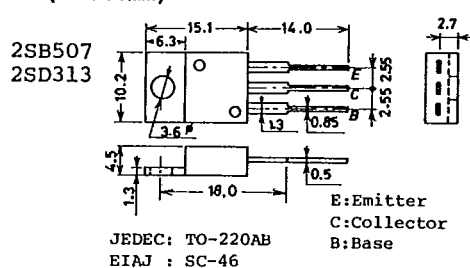
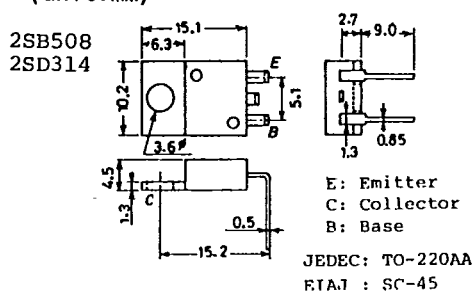
Collector to Base Voltage	V_{CBO}	(-)60	V
Collector to Emitter Voltage	V_{CEO}	(-)60	V
Emitter to Base Voltage	V_{EBO}	(-)5	V
Collector Current	I_C	(-)3	A
	i_{cp}	(-)8	A
Collector Dissipation	P_C	1.75	W
	$T_C=25^\circ\text{C}$	30	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

			min	typ	max	unit
Collector Cut Off Current	I_{CBO}	$V_{CB}=(-)20\text{V}, I_E=0$		(-)0.1		mA
	I_{CEO}	$V_{CE}=(-)60\text{V}, R_{BE}=\infty$		(-)5		mA
Emitter Cut Off Current	I_{EBO}	$V_{EB}=(-)4\text{V}, I_C=0$		(-)1		mA
Secondary Breakdown Voltage	$V_{S/B}$	$I_C=(-)0.5\text{A}, t=1\text{sec}$	(-)60			V
DC Current Gain	$h_{FE}(1)$	$V_{CE}=(-)2\text{V}, I_C=(-)1\text{A}$	40*		320*	
	$h_{FE}(2)$	$V_{CE}=(-)2\text{V}, I_C=(-)0.1\text{A}$	40			
Gain Band Width Product	f_T	$V_{CE}=(-)5\text{V}, I_C=(-)0.5\text{A}$		8		MHz
Output Capacitance	c_{ob}	$(V_{CB}=(-)10\text{V}, f=1\text{MHz})$		(130)		pF
		2SB507, 508		65		pF
		2SD313, 314				
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2\text{A}, I_B=(-)0.2\text{A}$	(-)0.4	(-)1.0		V
Base to Emitter Voltage	V_{BE}	$I_C=(-)1\text{A}, V_{CE}=(-)2\text{V}$		(-)1.5		V

*:2SB507, 508/2SD313, 314 are classified by 1A h_{FE} as follows:

40	C	80	60	D	120	100	E	200	160	F	320
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Case Outline 2010A
(unit:mm)Case Outline 2012
(unit:mm)

The 2SB508/D314 are scheduled to be discontinued soon. Use the 2SB507/D313, instead of the 2SB508/D314, in new applications where you are planning to use the 2SB508/D314.

3257AT/3095MW, TS No. 396-1/6

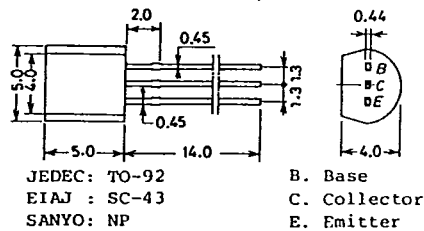
T-91-20

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.

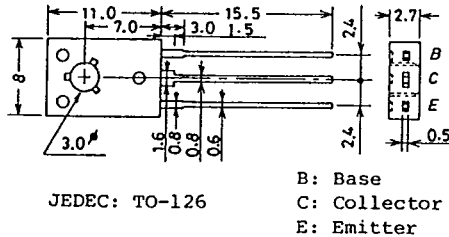
Case Outline—[2003A]

unit:mm



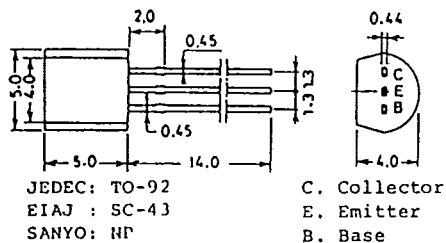
Case Outline—[2009A]

unit:mm



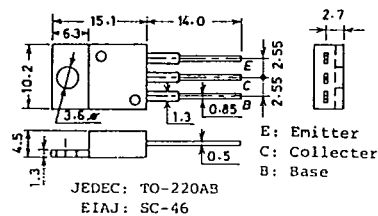
Case Outline—[2004A]

unit:mm



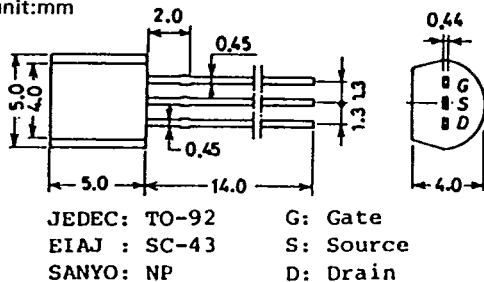
Case Outline—[2010A]

unit:mm



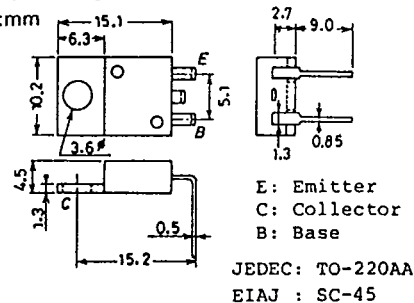
Case Outline—[2005A]

unit:mm



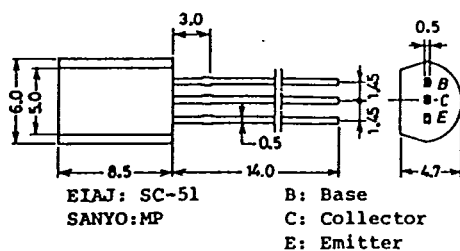
Case Outline—[2012]

unit:mm



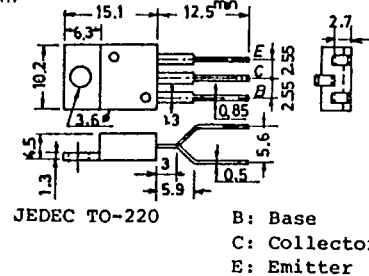
Case Outline—[2006A]

unit:mm

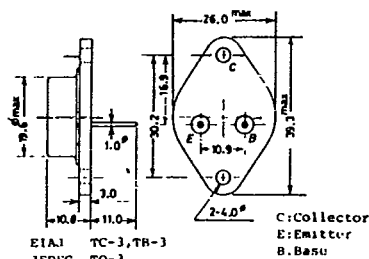


Case Outline—[2013]

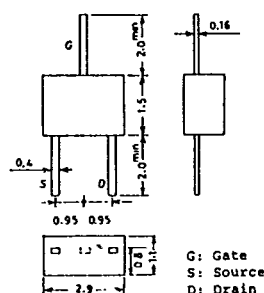
unit:mm



unit:mm

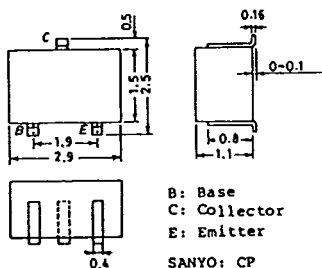


unit:mm

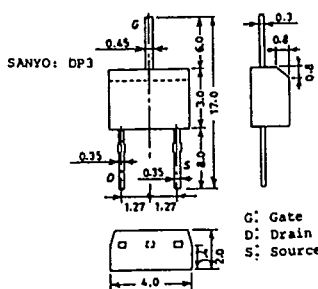


T-91-20

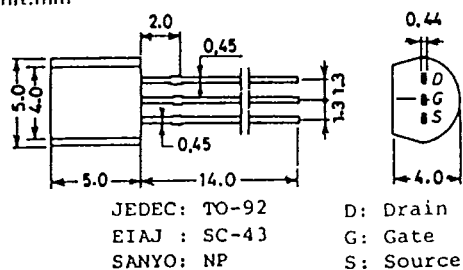
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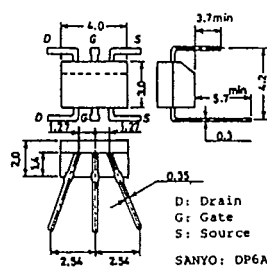
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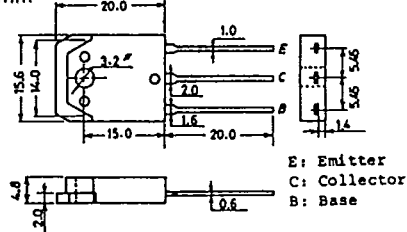
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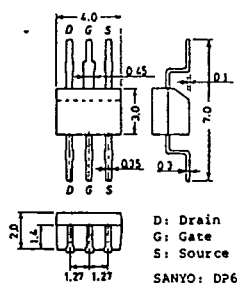
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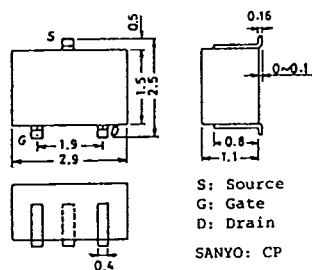
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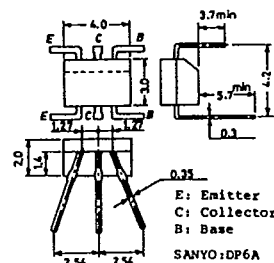
unit:mm



unit:mm



unit:mm



E: Emitter
C: Collector
B: Base

SANYO:DP6B

E: Emitter
C: Collector
B: Base

G1: Catw1
\$: Source
D-r Drain
G2: Gate2
SANYO: Osaka

E: Emitter
C: Collector
B: Base

SANYO:TO3PML

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

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

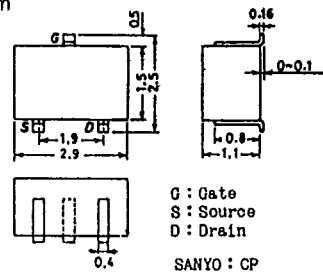
D: Drain
G: Gate
S: Source
SANYO: SPA

SANYO: TO220ML

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

SANYO: TO126ML

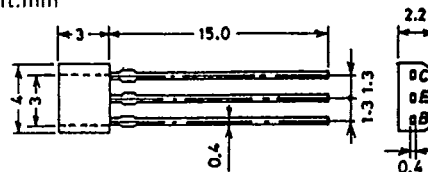
unit:mm



SANYO: TO126LP

SANYO : CP

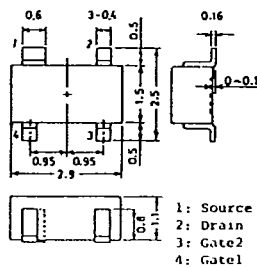
unit:mm



C: Collector
E: Emitter
B: Base

SANYO: SPA

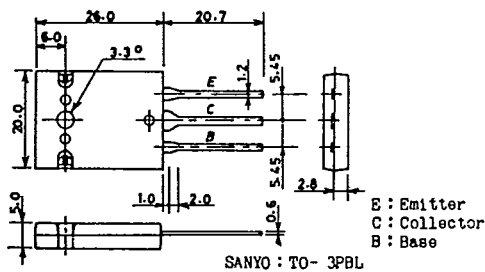
unit:mm



1: Source
2: Drain
3: Gate

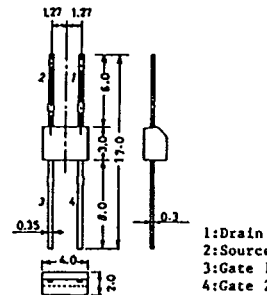
JEDEC: TO-220AB
EIAJ: SC-46

unit:mm



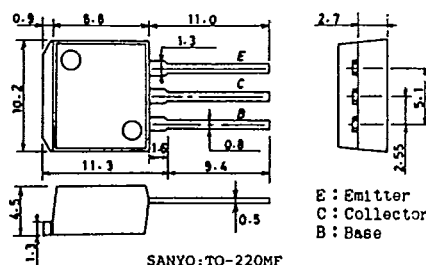
E : Emitter
C : Collector
B : Base

SANYO : TO- 3PBL



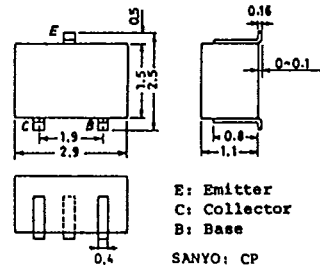
1: Drain
2: Source
3: Gate 1
4: Gate 2

unit:mm



E : Emitter
C : Collector
B : Base

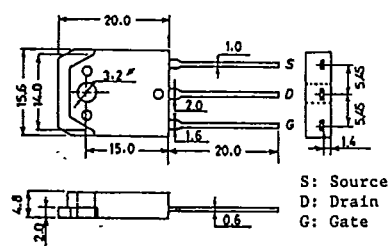
SANYO:TO-220MF



E: Emitter
C: Collector
B: Base

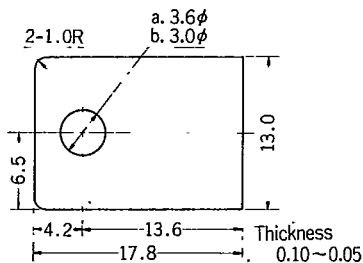
SANYO: CP

Case Outline—[2056] unit:mm



SANYO: TO3PB

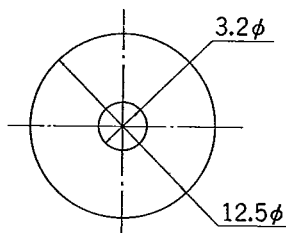
Case Outline—[0008] unit:mm

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

SANYO

Case Outline—[0004] unit:mm

unit:mm

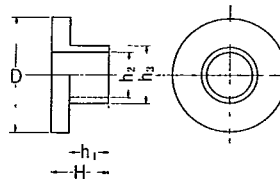


SANYO IS-126

Thickness : 0.075

Case Outline—[0009] unit:mm

unit:mm

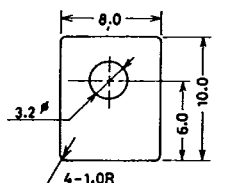


SANYO Bush

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

unit:mm

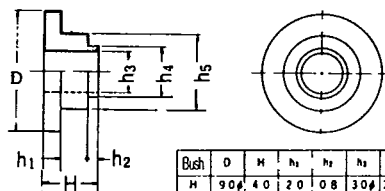


Thickness : 0.075

SANYO IS-126A Mica

Case Outline—[0010] unit:mm

unit:mm

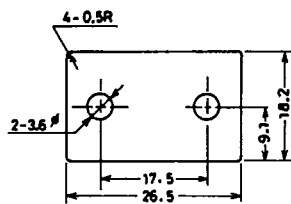


SANYO Bush

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

unit:mm

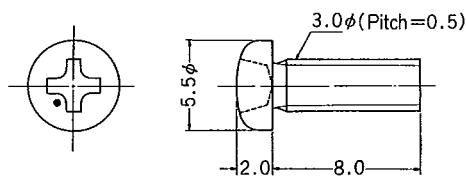


Thickness : 0.05~0.1

SANYO IS-20MA Mica

Case Outline—[0011] unit:mm

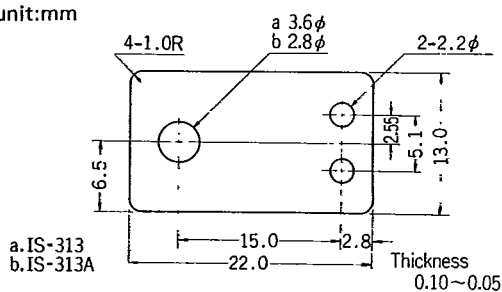
unit:mm



JIS No. B1111 M3×0.5

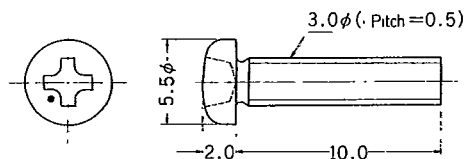
Case Outline—[0007] unit:mm

unit:mm



Case Outline—[0012] unit:mm

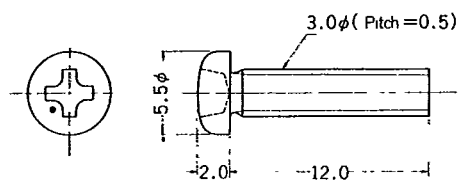
unit:mm



JIS No. B1111 M3×0.5

Case Outline—[0013]

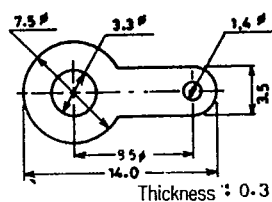
unit:mm



JIS No. B1111 M3×0.5

Case Outline—[0018]

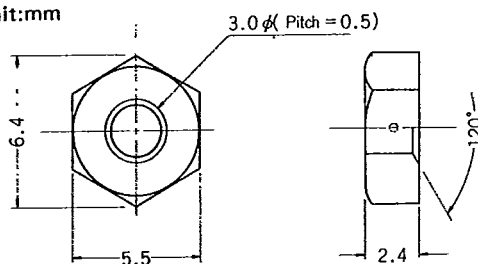
unit:mm



SANYO Lug 1.4

Case Outline—[0014]

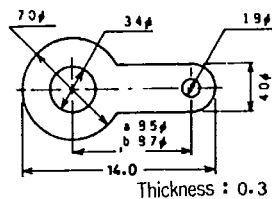
unit:mm



JIS No. B1181 M3×0.5

Case Outline—[0019]

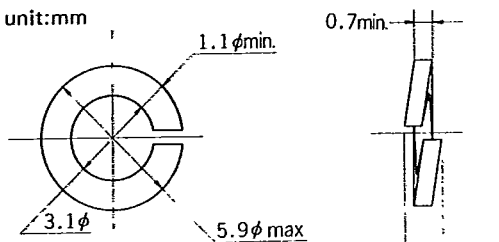
unit:mm



SANYO Lug 1.8φ

Case Outline—[0015]

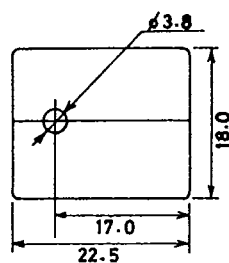
unit:mm



JIS No. B 1251 Spring washer (M3)

Case Outline—[0020]

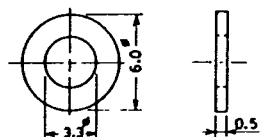
unit:mm



SANYO IS-3MP Mica

Case Outline—[0016]

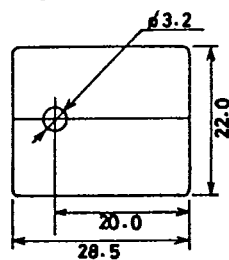
unit:mm



JIS No. B1252 Flat washer

Case Outline—[0021]

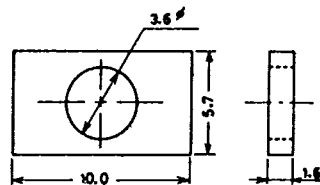
unit:mm



SANYO IS-MPC Mica

Case Outline—[0017]

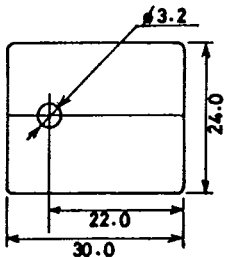
unit:mm



JIS No. G3141 Rectangular washer

Case Outline—[0022]

unit:mm



SANYO IS-3PBL Mica