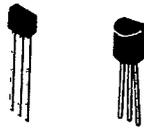


2SC930



2033

2003A

NPN, Epitaxial Planar
Silicon Transistor

AM Converter, FM RF · IF Amp Applications

©545E

The 2SC930 has two types of package: SPA and NP.

Use

- FM RF amp, mixer, OSC, converter, and IF amplifier.

Absolute Maximum Ratings at Ta=25°C

	2SC930SPA	2SC930NP	unit	
Collector to Base Voltage	V _{CB0}	30	30	V
Collector to Emitter Voltage	V _{CEO}	20	20	V
Emitter to Base Voltage	V _{EBO}	5	5	V
Collector Current	I _C	30	30	mA
Collector Dissipation	P _C	120	250	mW
Junction Temperature	T _j	125	125	°C
Storage Temperature	T _{stg}	-40 to +125	-55 to +125	°C

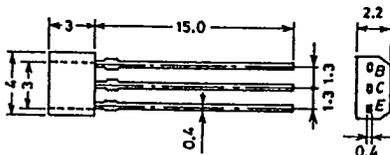
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I _{CBO}	V _{CB} =10V, I _E =0			1	uA
Emitter Cutoff Current	I _{EBO}	V _{EB} =4V, I _C =0			1	uA
DC Current Gain	h _{FE}	V _{CE} =6V, I _C =1mA	40*	80	320*	
Gain Bandwidth Product	f _T	V _{CE} =6V, I _C =1mA	170	300		MHz
Reverse Transfer capacitance	C _{re}	V _{CB} =6V, I _C =1MHz (2SC930SPA)	0.8		1.6	pF
		V _{CB} =6V, f=1MHz (2SC930NP)	1.0	1.3	1.8	pF
Base to Collector Time Constant	τ _{bb'c}	V _{CE} =6V, I _C =1mA f=31.9MHz		20	36	pS
Noise Figure	NF	V _{CE} =6V, I _C =1mA f=100MHz		4.0		dB
Turn-on Time	t _{on}	V _{IN} =+12V, V _{BB} =-3V, appointed circuit		30		ns
Turn-off Time	t _{off}	V _{IN} =-12V, V _{BB} =+3V, appointed circuit		30		ns

*The 2SC930 is graded as follows by 1mA h_{FE}:

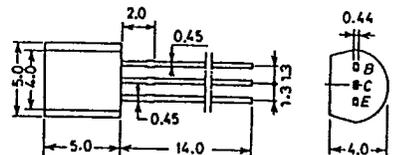
40	C	80	60	D	120	100	E	200	160	F	320
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Case Outline 2033
(unit:mm)



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

Case Outline 2003A
(unit:mm)



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

B. Base
C. Collector
E. Emitter

The 2SC930 is scheduled to be discontinued soon. Use the 2SC2839, instead of the 2SC930, in new applications where you are planning to use the 2SC930.

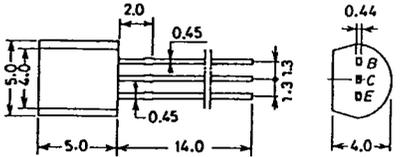
CASE OUTLINES AND ATTACHMENTS

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- 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

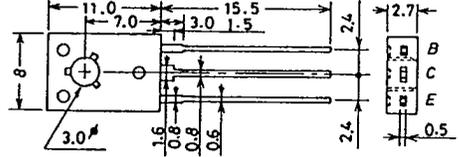


JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

B. Base
C. Collector
E. Emitter

Case Outline—[2009A]

unit:mm

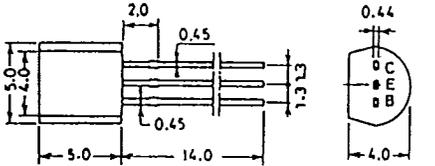


JEDEC: TO-126

B: Base
C: Collector
E: Emitter

Case Outline—[2004A]

unit:mm

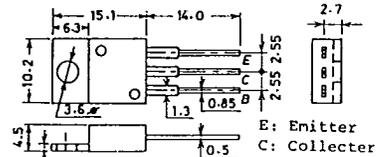


JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

C. Collector
E. Emitter
B. Base

Case Outline—[2010A]

unit:mm

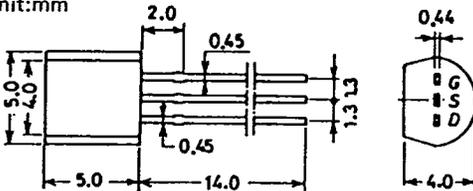


JEDEC: TO-220AB
EIAJ : SC-46

E: Emitter
C: Collector
B: Base

Case Outline—[2005A]

unit:mm

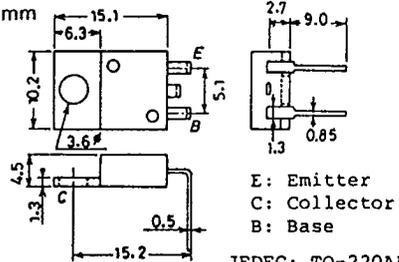


JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

G: Gate
S: Source
D: Drain

Case Outline—[2012]

unit:mm

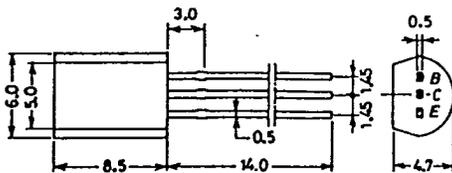


JEDEC: TO-220AA
EIAJ : SC-45

E: Emitter
C: Collector
B: Base

Case Outline—[2006A]

unit:mm

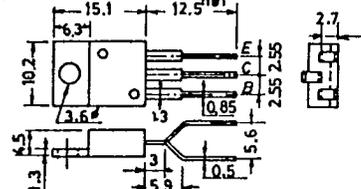


EIAJ : SC-51
SANYO: MP

B: Base
C: Collector
E: Emitter

Case Outline—[2013]

unit:mm

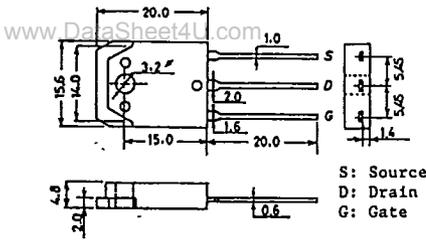


JEDEC TO-220

B: Base
C: Collector
E: Emitter

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Case Outline—[2056] unit:mm

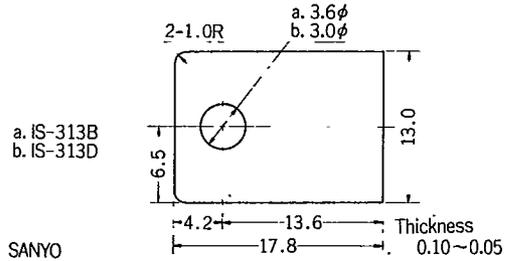


S: Source
D: Drain
G: Gate

SANYO: TO3PB

Case Outline—[0008] unit:mm

unit:mm

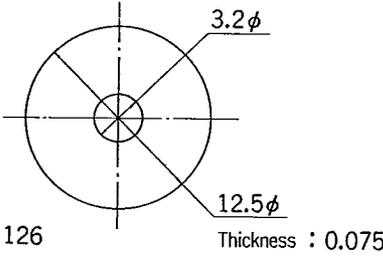


a. IS-313B
b. IS-313D

SANYO

Case Outline—[0004] unit:mm

unit:mm

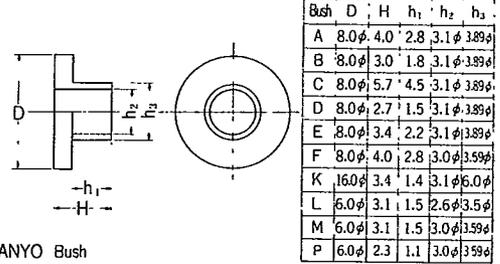


SANYO IS-126

Thickness : 0.075

Case Outline—[0009] unit:mm

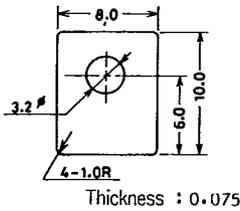
unit:mm



SANYO Bush

Case Outline—[0005] unit:mm

unit:mm

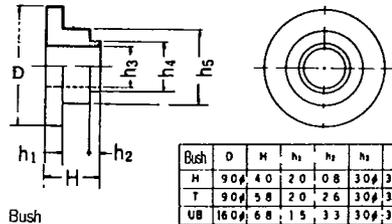


SANYO IS-126A Mica

Thickness : 0.075

Case Outline—[0010] unit:mm

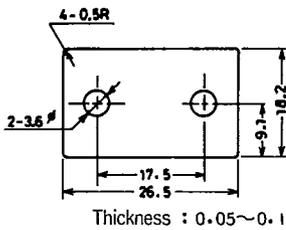
unit:mm



SANYO Bush

Case Outline—[0006] unit:mm

unit:mm

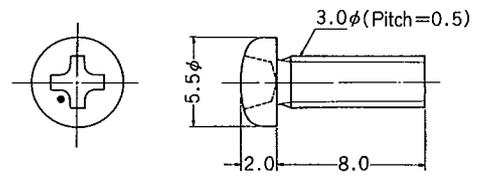


SANYO IS-20MA Mica

Thickness : 0.05~0.1

Case Outline—[0011] unit:mm

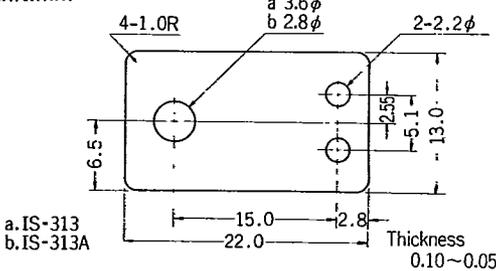
unit:mm



JIS No. B1111 M3×0.5

Case Outline—[0007] unit:mm

unit:mm

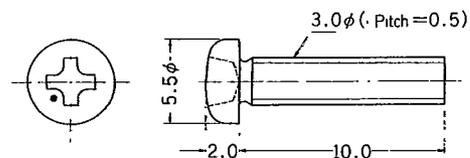


a. IS-313
b. IS-313A

Thickness
0.10~0.05

Case Outline—[0012] unit:mm

unit:mm



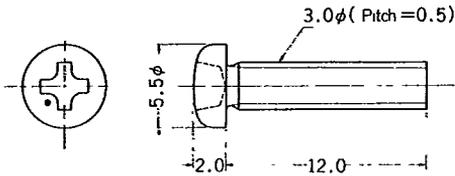
JIS No. B1111 M3×0.5

www.DataSheet4U.com

Case Outline-[0013]

unit:mm

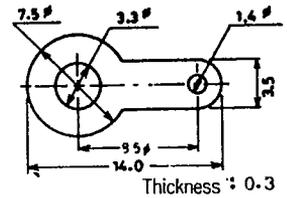
www.DataSheet4U.com



JIS No. B1111 M3x0.5

Case Outline-[0018]

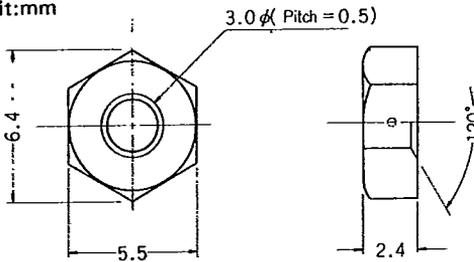
unit:mm



SANYO Lug 1.4

Case Outline-[0014]

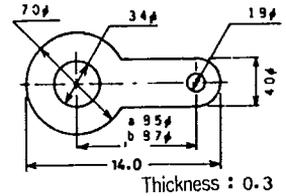
unit:mm



JIS No. B1181 M3x0.5

Case Outline-[0019]

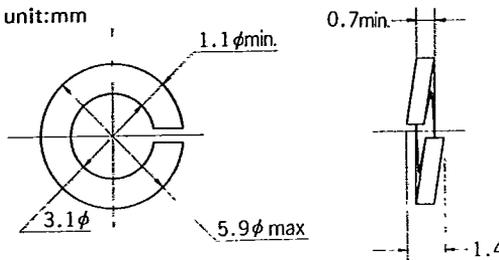
unit:mm



SANYO Lug 1.8φ

Case Outline-[0015]

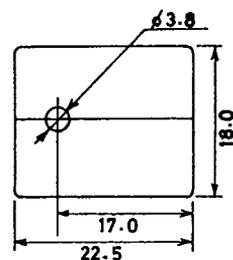
unit:mm



JIS No. B 1251 Spring washer (M3)

Case Outline-[0020]

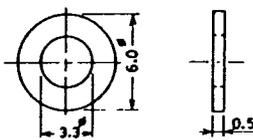
unit:mm



SANYO IS-3MP Mica

Case Outline-[0016]

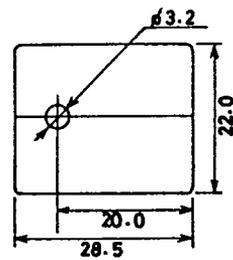
unit:mm



JIS No. B1252 Flat washer

Case Outline-[0021]

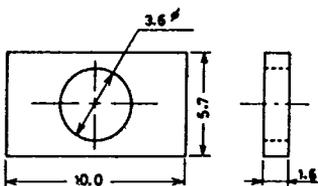
unit:mm



SANYO IS-MPC Mica

Case Outline-[0017]

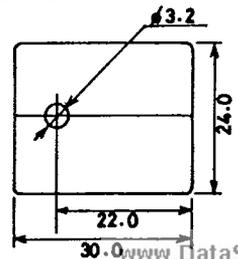
unit:mm



JIS No. G3141 Rectangular washer

Case Outline-[0022]

unit:mm



SANYO IS-3PBL Mica