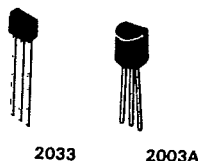


# 2SC930



T-31-15  
T-31-17

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.

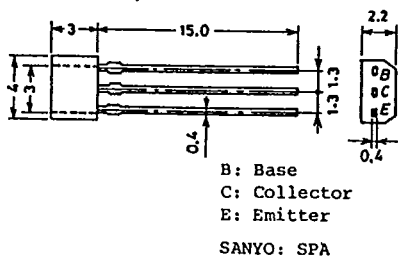
Absolute Maximum Ratings at Ta=25°C		2SC930SPA	2SC930NP	unit
Collector to Base Voltage	V <sub>CB0</sub>	30	30	V
Collector to Emitter Voltage	V <sub>CE0</sub>	20	20	V
Emitter to Base Voltage	V <sub>EB0</sub>	5	5	V
Collector Current	I <sub>C</sub>	30	30	mA
Collector Dissipation	P <sub>C</sub>	120	250	mW
Junction Temperature	T <sub>j</sub>	125	125	°C
Storage Temperature	T <sub>stg</sub>	-40 to +125	-55 to +125	°C

Electrical Characteristics at Ta=25°C					unit
			min	typ	max
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0			1
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0			1
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA	40*	80	320*
Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA	170	300	MHz
Reverse Transfer capacitance	C <sub>re</sub>	V <sub>CB</sub> =6V, I <sub>C</sub> =1MHz (2SC930SPA)	0.8		1.6
		V <sub>CB</sub> =6V, f=1MHz (2SC930NP)	1.0	1.3	1.8
Base to Collector Time Constant	τ <sub>bb'cc</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA		20	36
		f=31.9MHz			
Noise Figure	N <sub>F</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA		4.0	dB
		f=100MHz			
Turn-on Time	t <sub>on</sub>	V <sub>IN</sub> =+12V, V <sub>BB</sub> =-3V, appointed circuit		30	ns
Turn-off Time	t <sub>off</sub>	V <sub>IN</sub> =-12V, V <sub>BB</sub> =+3V, appointed circuit		30	ns

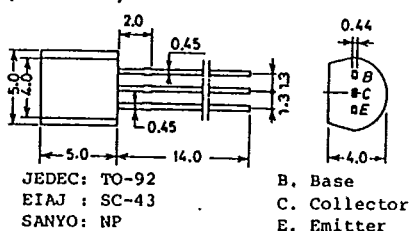
\*The 2SC930 is graded as follows by mA h<sub>FE</sub>:

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



Case Outline 2003A (unit:mm)



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.

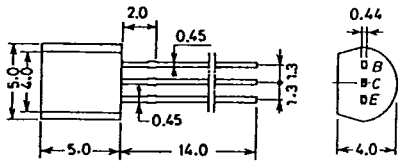
T-91-20

# 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

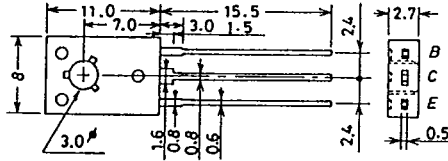


JEDEC: TO-92  
EIAJ: SC-43  
SANYO: NP

B. Base  
C. Collector  
E. Emitter

Case Outline-[2009A]

unit:mm

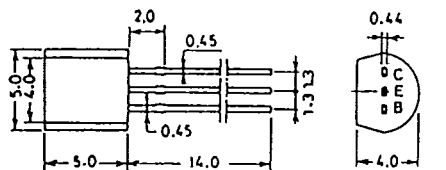


JEDEC: TO-126

B: Base  
C: Collector  
E: Emitter

Case Outline-[2004A]

unit:mm

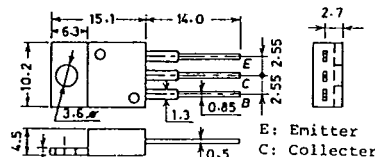


JEDEC: TO-92  
EIAJ: SC-43  
SANYO: NP

C. Collector  
E. Emitter  
B. Base

Case Outline-[2010A]

unit:mm

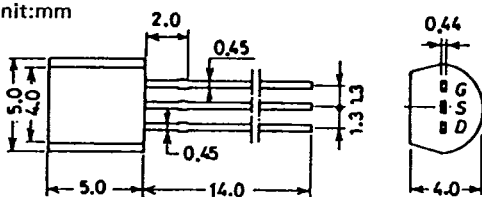


JEDEC: TO-220AB  
EIAJ: SC-46

E: Emitter  
C: Collector  
B: Base

Case Outline-[2005A]

unit:mm

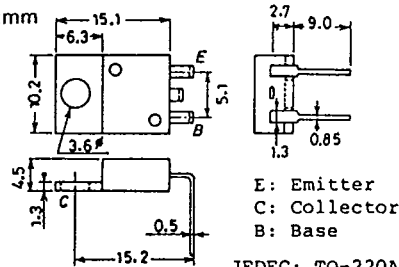


JEDEC: TO-92  
EIAJ: SC-43  
SANYO: NP

G: Gate  
S: Source  
D: Drain

Case Outline-[2012]

unit:mm

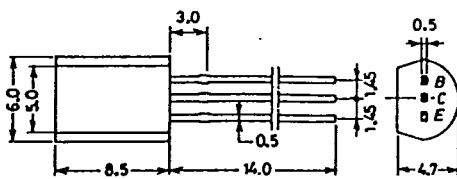


JEDEC: TO-220AA  
EIAJ: SC-45

E: Emitter  
C: Collector  
B: Base

Case Outline-[2006A]

unit:mm

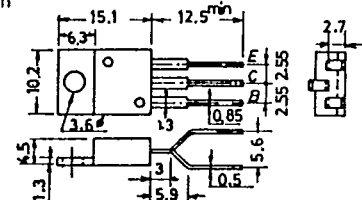


EIAJ: SC-51  
SANYO: MP

B: Base  
C: Collector  
E: Emitter

Case Outline-[2013]

unit:mm



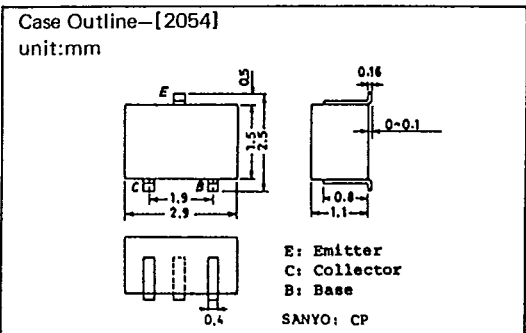
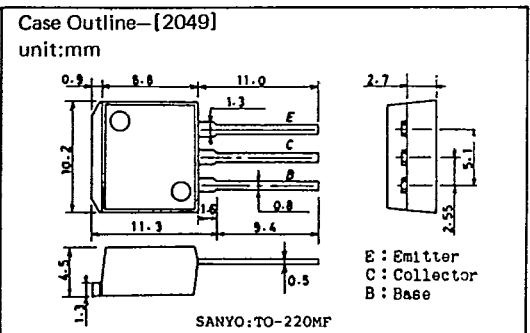
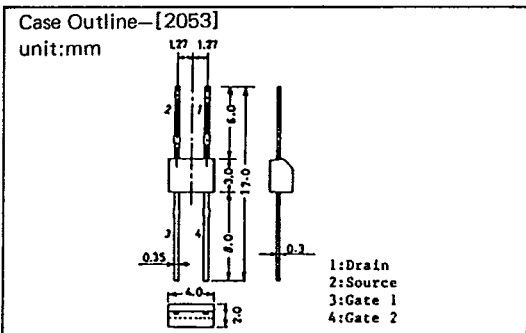
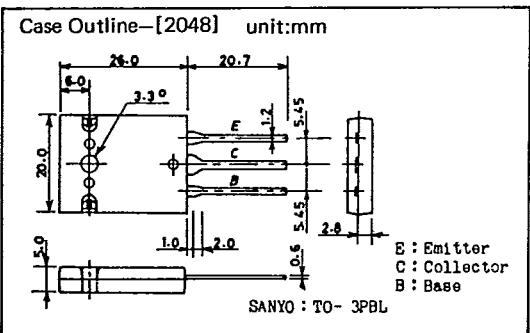
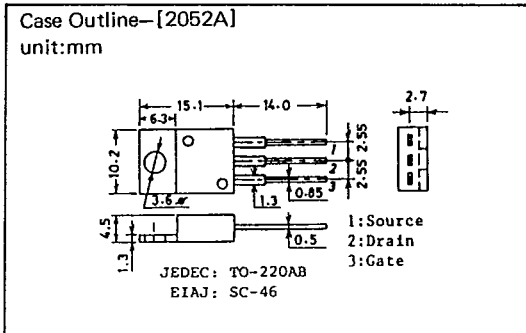
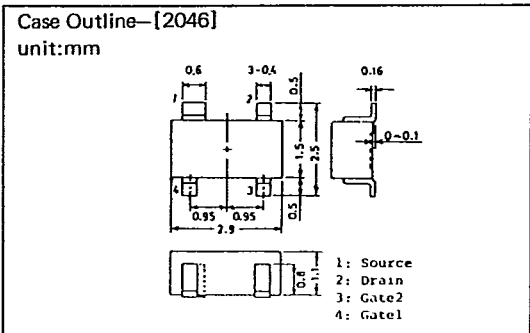
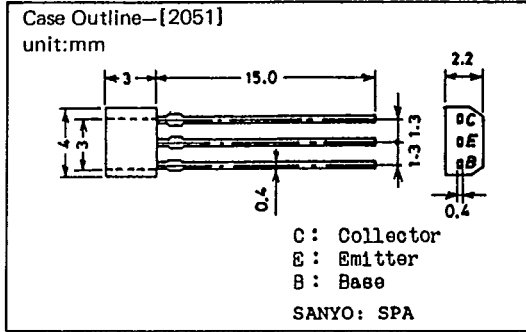
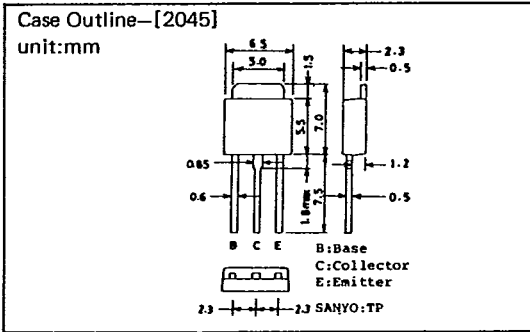
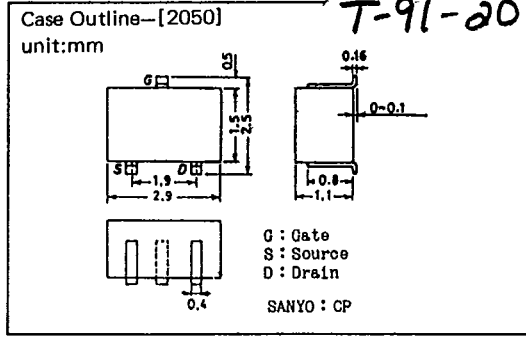
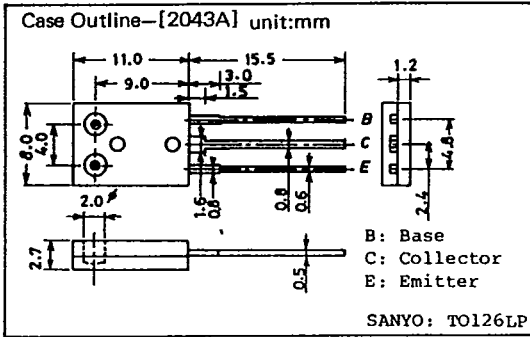
JEDEC TO-220

B: Base  
C: Collector  
E: Emitter





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