

SANYO

No.1599A

2SA1317/2SC3330

PNP/NPN Epitaxial Planar Silicon Transistors

AF Amp Applications**Use**

- Capable of being used in the low frequency to high frequency range.

Features

- Large current capacity and wide ASO.

(): 2SA1317

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

			unit
Collector to Base Voltage	V_{CB0}	(-)60	V
Collector to Emitter Voltage	V_{CE0}	(-)50	V
Emitter to Base Voltage	V_{EB0}	(-)6	V
Collector Current	I_C	(-)200	mA
Collector Current (Pulse)	I_{CP}	(-)400	mA
Collector Dissipation	P_C	300	mW
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^{\circ}\text{C}$

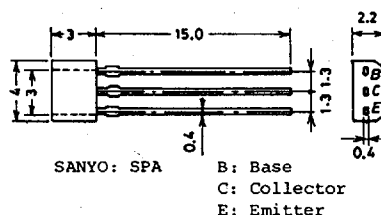
Electrical Characteristics at $T_a=25^{\circ}\text{C}$

		min	typ	max	unit
Collector Cutoff Current	I_{CBO}			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}			(-)0.1	μA
DC Current Gain	$h_{FE(1)}$		100*	800*	
			(100)	(560)	
	$h_{FE(2)}$		70		
Gain-Bandwidth Product	f_T		200		MHz
Output Capacitance	c_{ob}		3.0		pF
			(4.0)		

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* The 2SA1317/2SC3330 are classified by 1mA h_{FE} as follows:

2SA1317	100	R	200	140	S	280	200	T	400	280	U	560			
2SC3330	100	R	200	140	S	280	200	T	400	280	U	560	400	V	800

Case Outline 2033
(unit:mm)

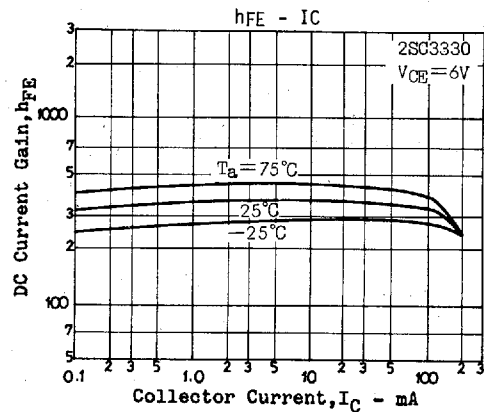
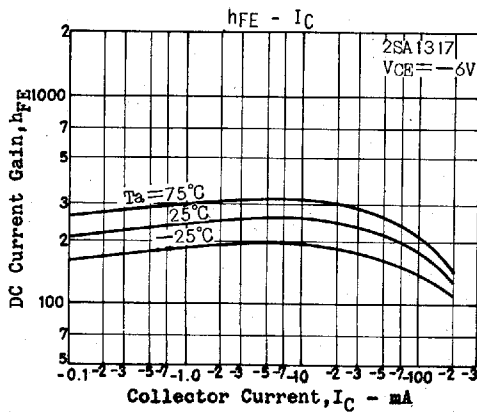
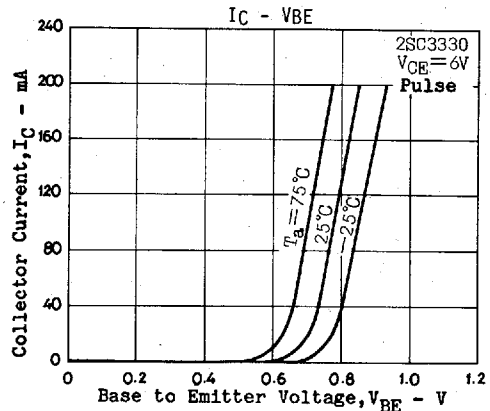
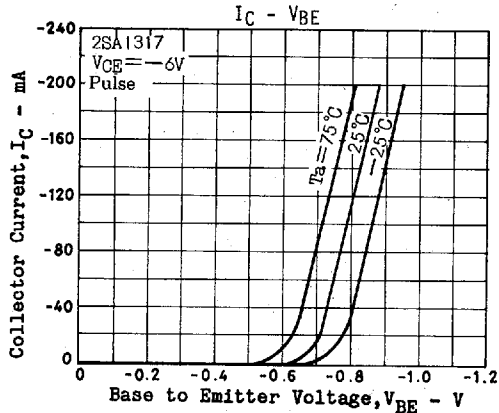
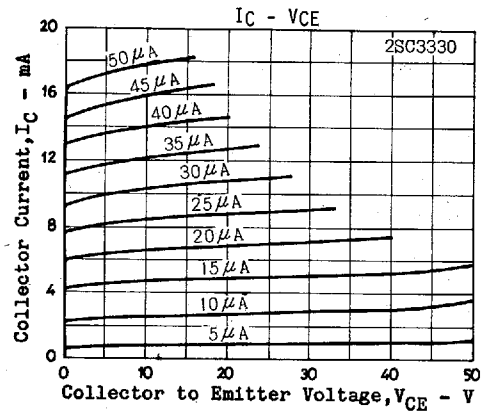
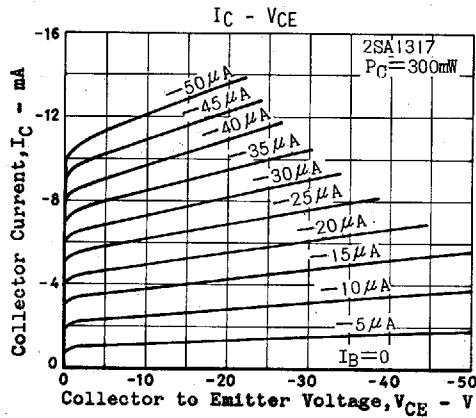
Specifications and information herein are subject to change without notice.

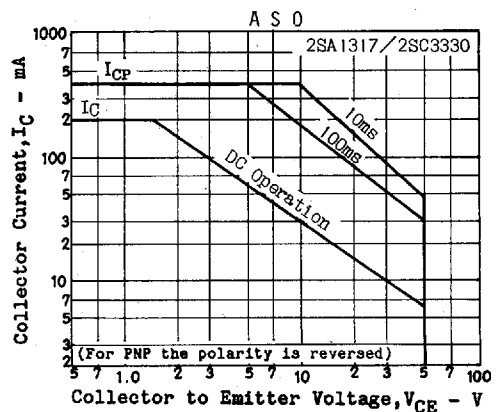
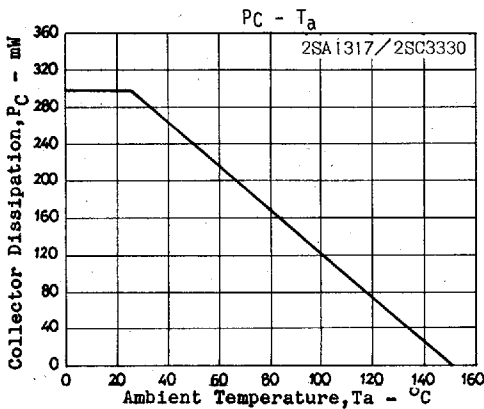
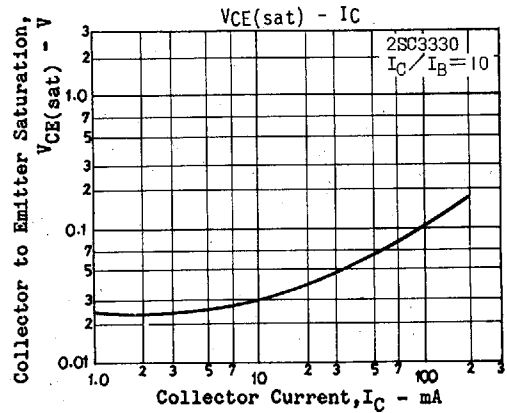
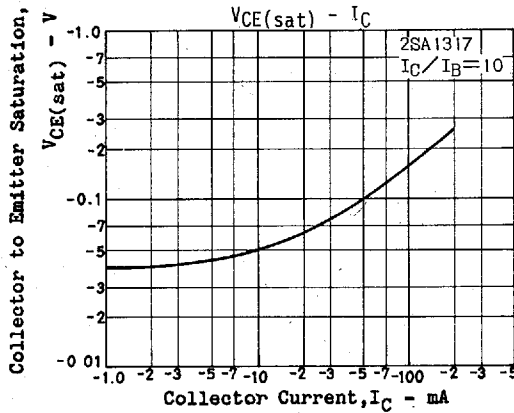
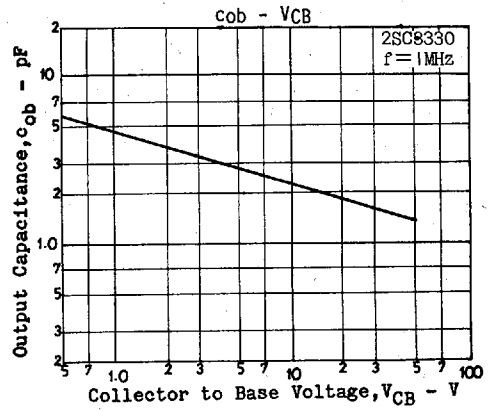
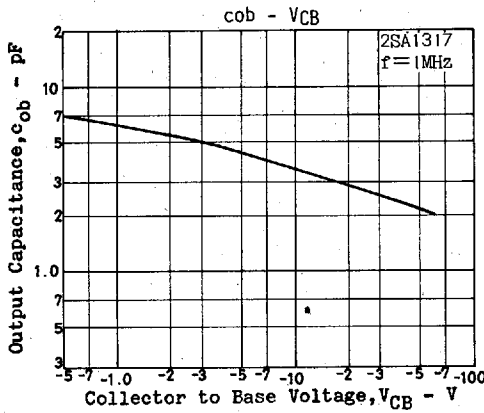
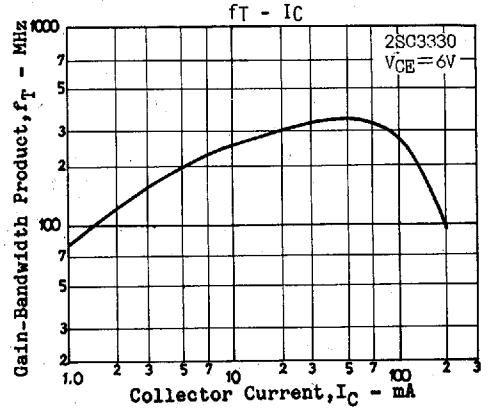
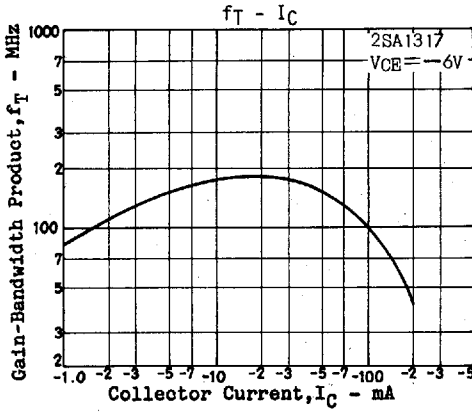
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			min	typ	max	unit
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)100mA$, $I_B = (-)10mA$		(-)	0.3	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)100mA$, $I_B = (-)10mA$		(-)	1.0	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A$, $I_E = 0$	(-)	60		V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA$, $R_{BE} = \infty$	(-)	50		V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A$, $I_C = 0$	(-)	6		V

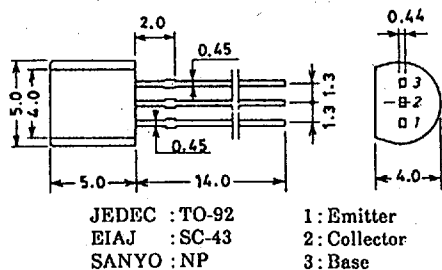




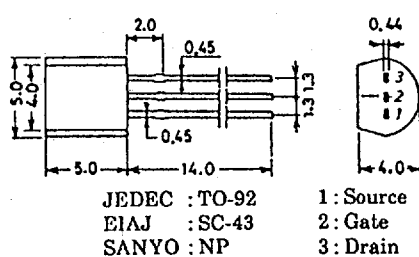
CASE OUTLINES OF LEAD FORMED SMALL SIGNAL TRANSISTORS

- All of Sanyo lead formed small signal 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.

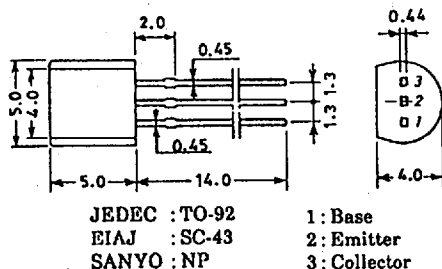
Case Outline 2003A/2003B (unit : mm)



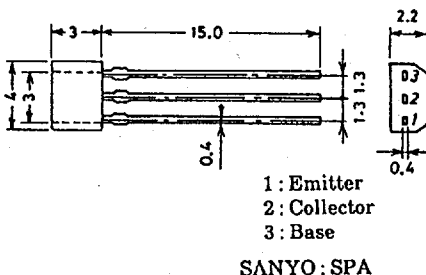
Case Outline 2019A/2019B (unit : mm)



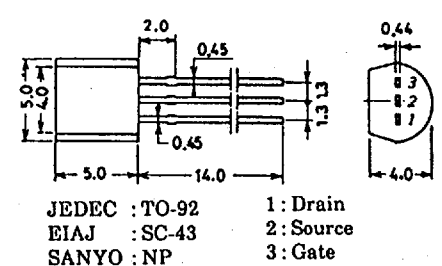
Case Outline 2004A (unit : mm)



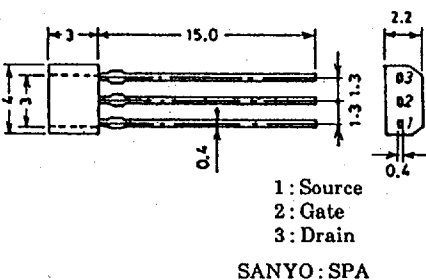
Case Outline 2033 (unit : mm)



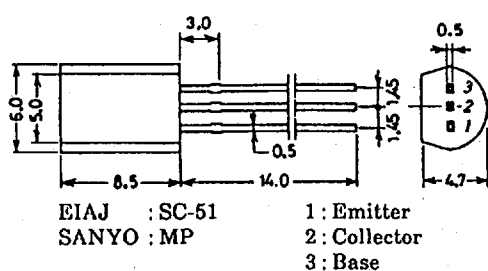
Case Outline 2005A (unit : mm)



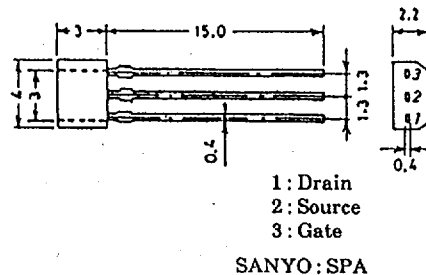
Case Outline 2034/2034A (unit : mm)



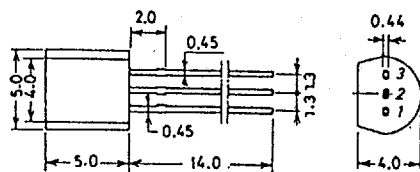
Case Outline 2006A (unit : mm)



Case Outline 2040 (unit : mm)



Case Outline 2061 (unit : mm)



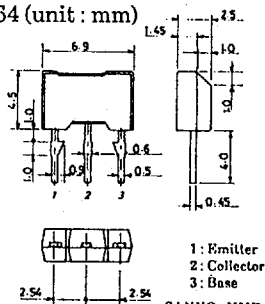
JEDEC : TO-92

EIAJ : SC-43

SANYO : NP

- 1: Emitter
- 2: Base
- 3: Collector

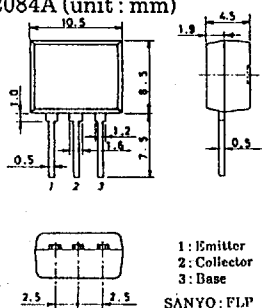
Case Outline 2064 (unit : mm)



- 1: Emitter
- 2: Collector
- 3: Base

SANYO : NMP

Case Outline 2084A (unit : mm)



- 1: Emitter
- 2: Collector
- 3: Base

SANYO : FLIP