

2SA1317/2SC3330

PNP/NPN Epitaxial Planar Silicon Transistors

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

Absolute Maximum Ratings at Ta=25°C			unit
Collector to Base Voltage	V _{CBO}	(-)60	V
Collector to Emitter Voltage	V _{CEO}	(-)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	°C
Storage Temperature	T _{stg}	-55 to +150	°C

Electrical Characteristics at Ta=25°C

Electrical Characteristics at $T_a=25^{\circ}\text{C}$		min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{\text{CB}}=(-)40\text{V}, I_{\text{E}}=0$		$(-)0.1$	μA
Emitter Cutoff Current	I_{EBO}	$V_{\text{EB}}=(-)5\text{V}, I_{\text{C}}=0$		$(-)0.1$	μA
DC Current Gain	$h_{\text{FE}}(1)$	$V_{\text{CE}}=(-)6\text{V}, I_{\text{C}}=(-)1\text{mA}$	100*	800*	
			(100)	(560)	
	$h_{\text{FE}}(2)$	$V_{\text{CE}}=(-)6\text{V}, I_{\text{C}}=(-)0.1\text{mA}$	70		
Gain-Bandwidth Product	f_{T}	$V_{\text{CE}}=(-)6\text{V}, I_{\text{C}}=(-)10\text{mA}$		200	MHz
Output Capacitance	c_{ob}	$V_{\text{CB}}=(-)6\text{V}, f=1\text{MHz}$		3.0	pF
				(4.0)	

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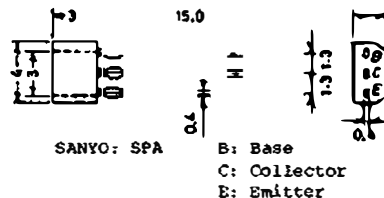
* The 2SA1317/2SC3330 are classified by 1mA h_{FE} as follows:

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

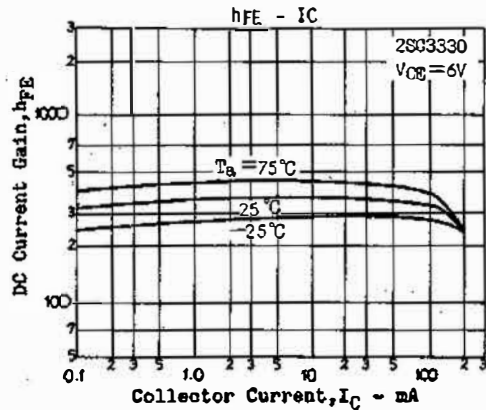
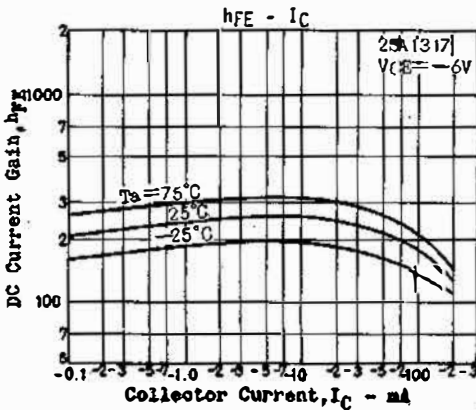
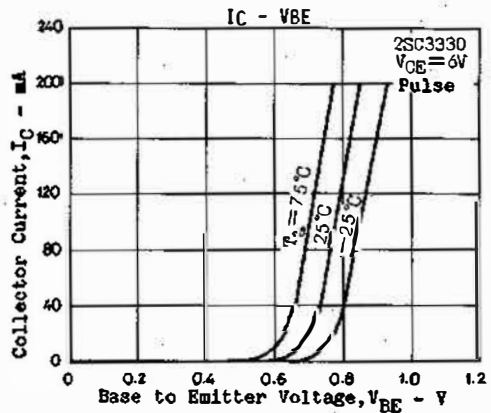
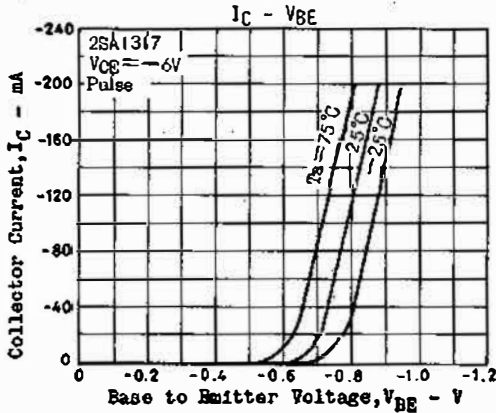
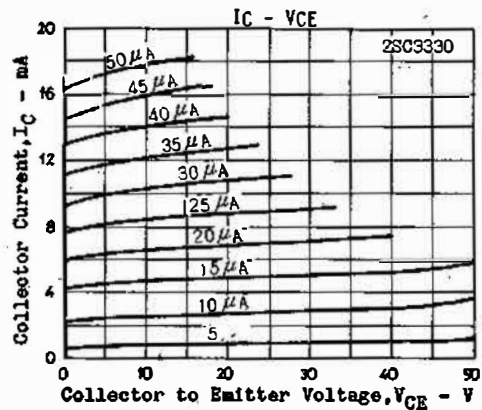
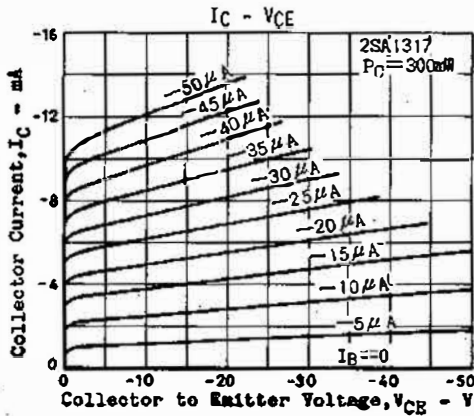
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(unit: cell)
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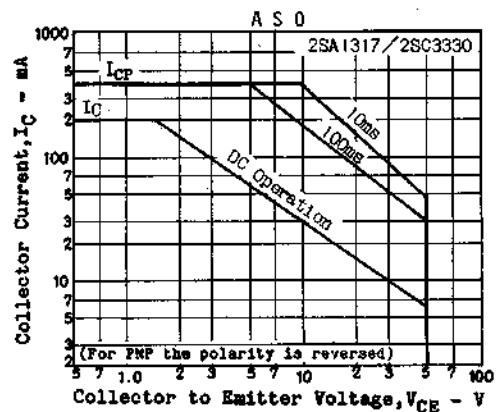
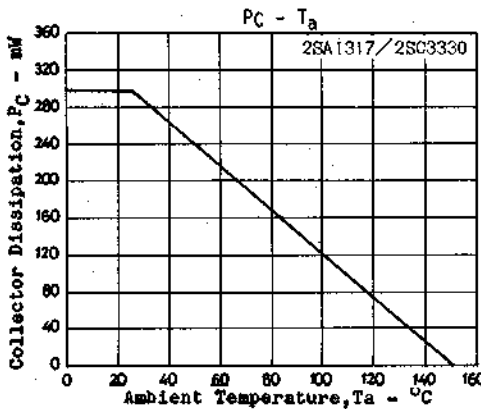
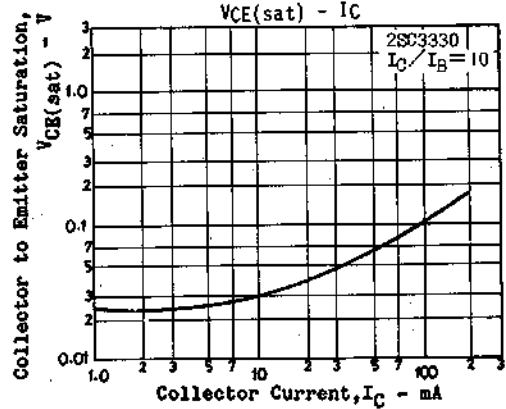
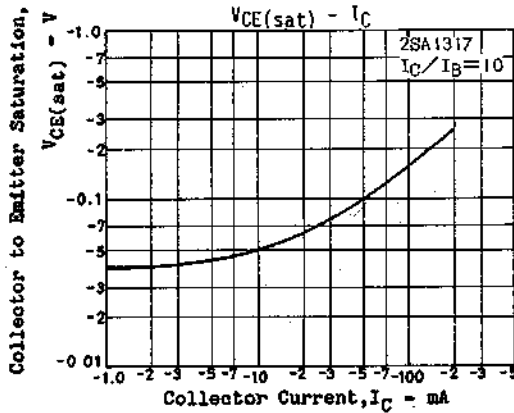
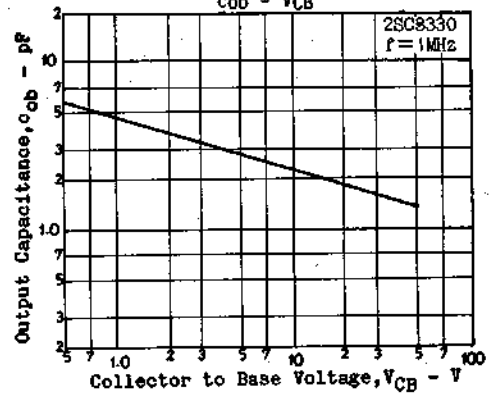
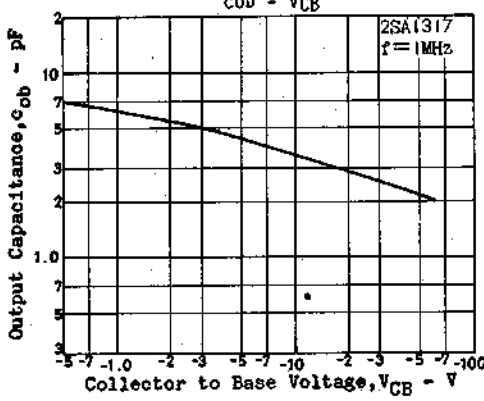
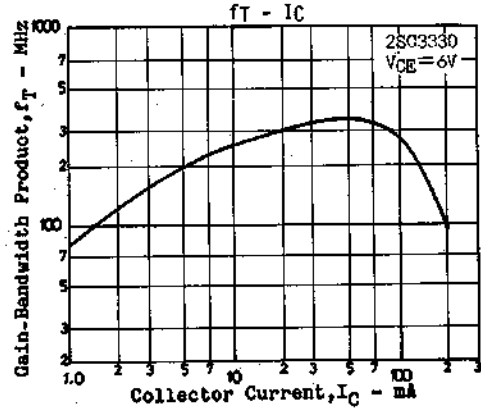
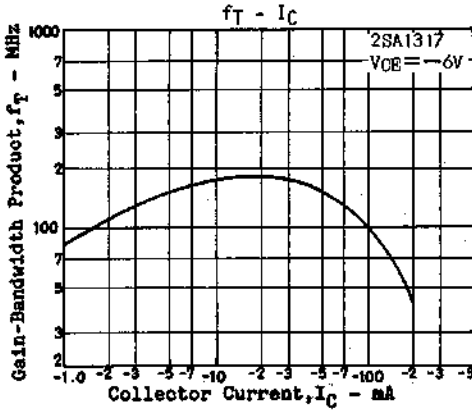


Specifications and information herein are subject to change without notice.

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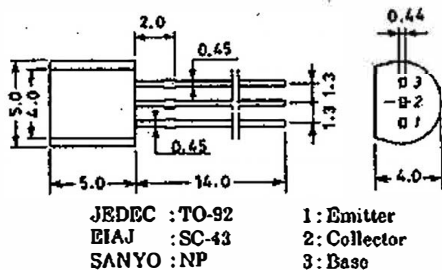
			min	typ	max	unit
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)100\text{mA}$, $I_B = (-)10\text{mA}$		(-)	0.3	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)100\text{mA}$, $I_B = (-)10\text{mA}$		(-)	1.0	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}$,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



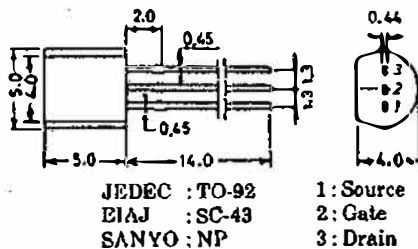


- All of Sanyo lead formed small signal transistor case outlines are illustrated below.
- All dimensions are in mm, and dimensions which are not followed by min. or max. are represented by typical values.
- No marking is indicated.

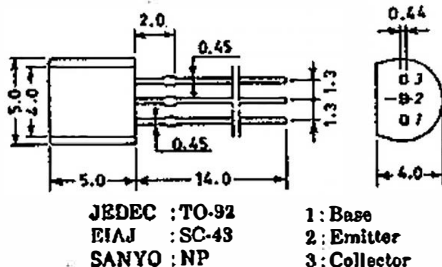
Case Outline 2003A/2003B (unit : mm)



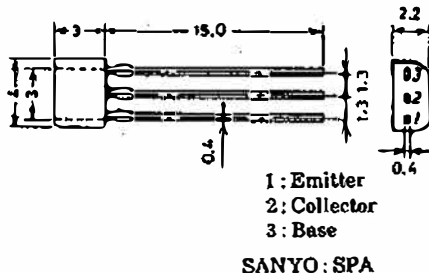
Case Outline 2019A/2019B (unit : mm)



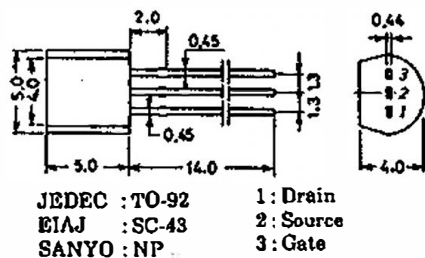
Case Outline 2004A (unit : mm)



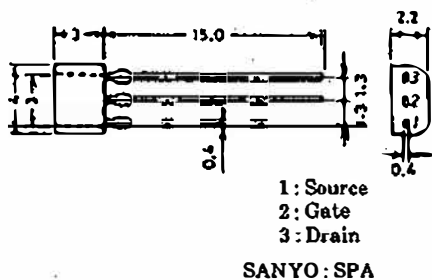
Case Outline 2033 (unit : mm)



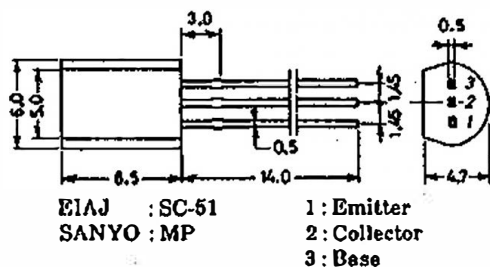
Case Outline 2005A (unit : mm)



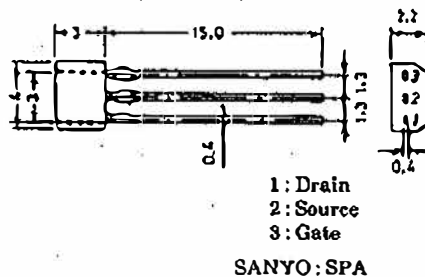
Case Outline 2034/2034A (unit : mm)



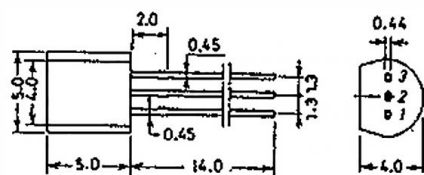
Case Outline 2006A (unit : mm)



Case Outline 2040 (unit : mm)



Case Outline 2061 (unit : mm)



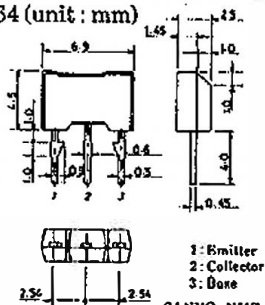
JEDEC : TO-92

EIAJ : SC-43

SANYO : NP

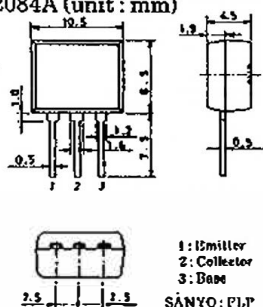
1: Emitter
2: Base
3: Collector

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 : PIP