

<b>SANYO</b>	No.199J	<h2 style="margin: 0;">2SB544/2SD400</h2> <p style="margin: 0;">PNP/NPN Epitaxial Planar Silicon Transistors</p> <p style="margin: 0;">Low-Frequency Power Amp, Electronic Governor Applications</p>
--------------	---------	--

( ) : 2SB544

**Absolute Maximum Ratings at Ta = 25°C**

			unit
Collector to Base Voltage	V <sub>CB0</sub>	(-)25	V
Collector to Emitter Voltage	V <sub>CEO</sub>	(-)25	V
Emitter to Base Voltage	V <sub>EBO</sub>	(-)5	V
Collector Current	I <sub>C</sub>	(-)1	A
Collector Current(Pulse)	I <sub>CP</sub>	(-)2	A
Collector Dissipation	P <sub>C</sub>	900	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

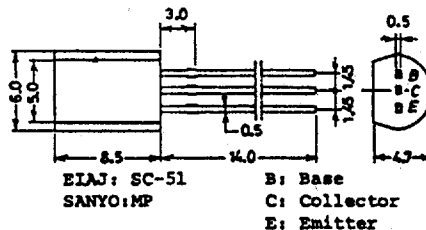
**Electrical Characteristics at Ta = 25°C**

			min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = (-)20V, I <sub>B</sub> = 0			(-)1.0	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = (-)4V, I <sub>C</sub> = 0			(-)1.0	μA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> = (-)2V, I <sub>C</sub> = (-)50mA	60*		560*	
	h <sub>FE</sub> (2)	V <sub>CE</sub> = (-)2V, I <sub>C</sub> = (-)1A	30			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = (-)10V, I <sub>C</sub> = (-)50mA		180		MHz
Output Capacitance	c <sub>ob</sub>	V <sub>CB</sub> = (-)10V, f = 1MHz		(25)		pF
				15		
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = (-)500mA, I <sub>B</sub> = (-)50mA	(-)0.15		(-)0.7	V
				0.1	0.3	
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = (-)500mA, I <sub>B</sub> = (-)50mA	(-)0.85		(-)1.2	V
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = (-)10μA, I <sub>E</sub> = 0	(-)25			V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = (-)1mA, R <sub>BE</sub> = ∞	(-)25			V
E-B Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = (-)10μA, I <sub>C</sub> = 0	(-)5			V

\* : The 2SB544/2SD400 are classified by 50mA h<sub>FE</sub> as follows :

60 D 120	100 E 200	160 F 320	280 G 560
----------	-----------	-----------	-----------

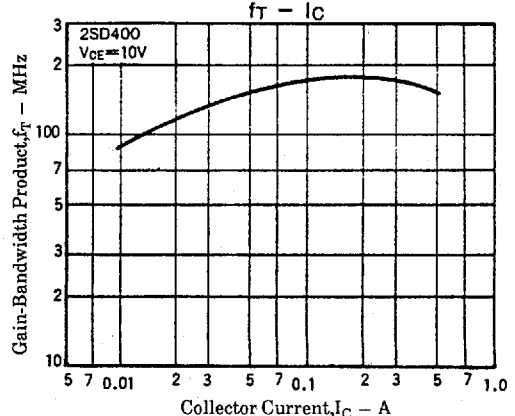
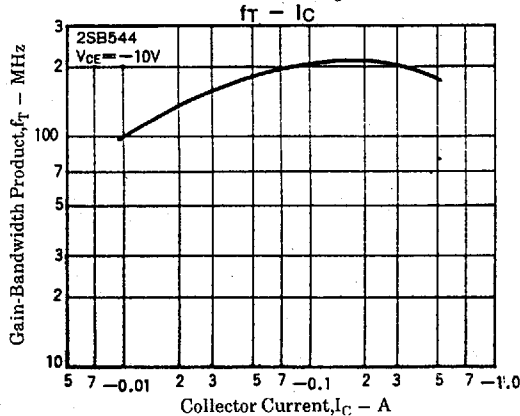
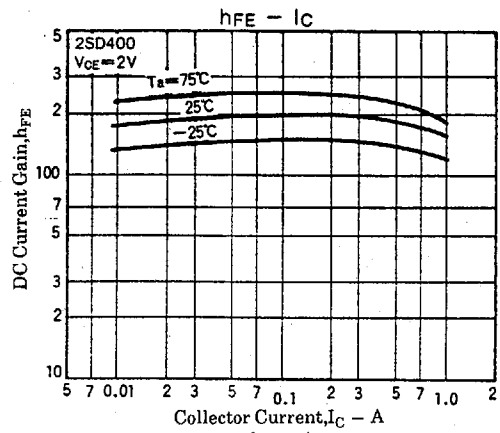
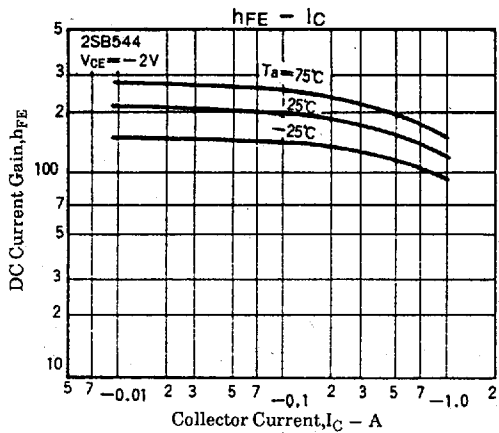
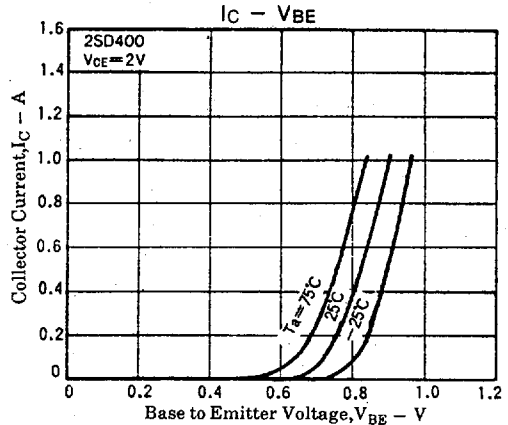
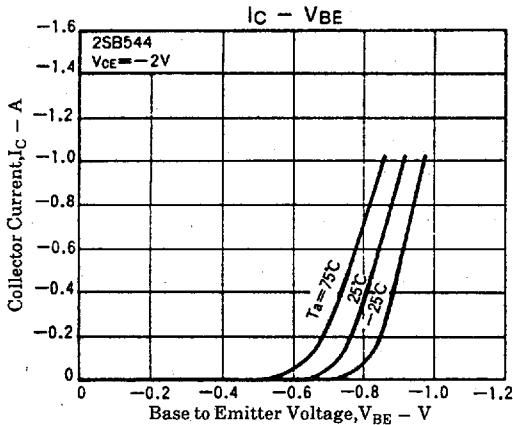
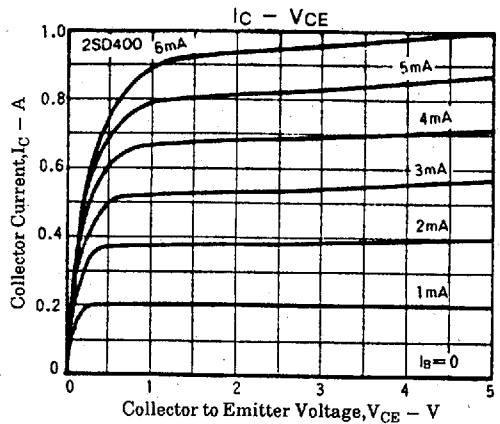
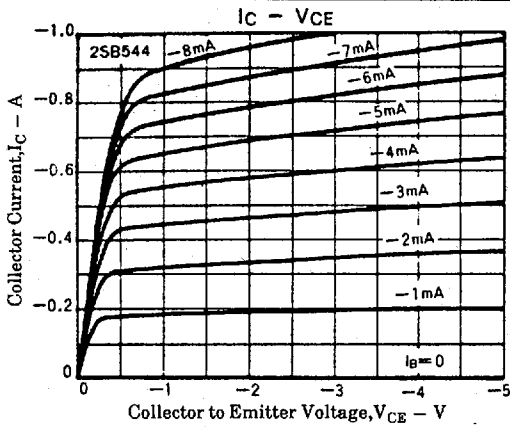
**Case Outline 2006A**  
(unit : mm)



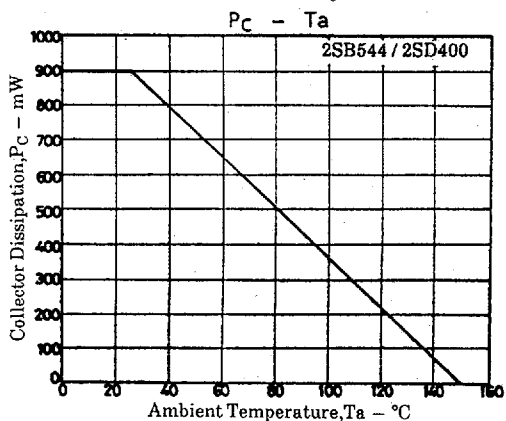
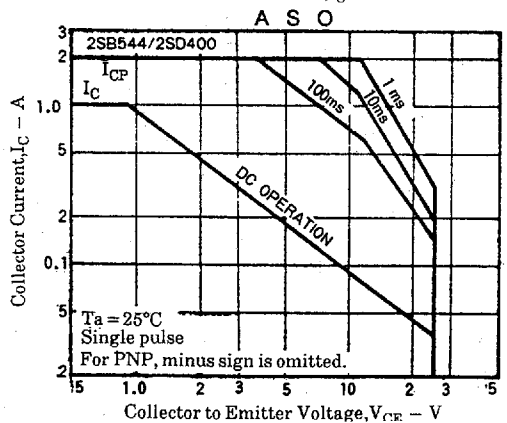
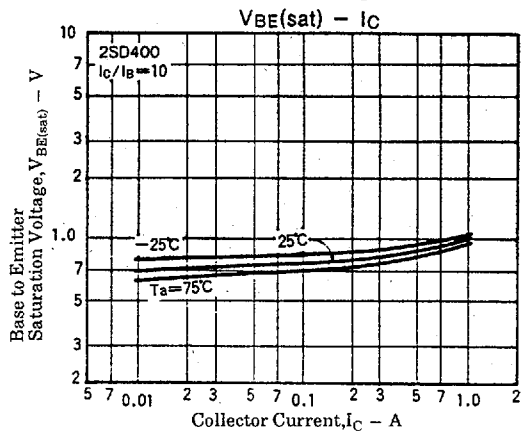
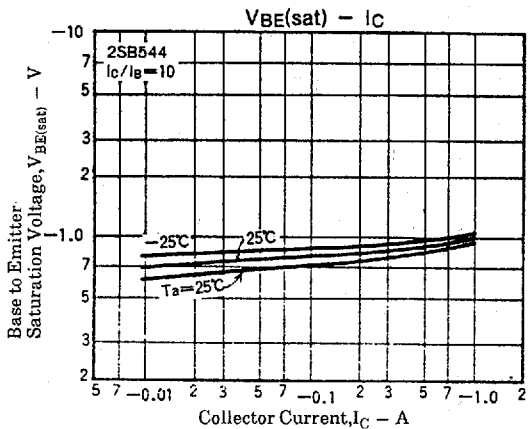
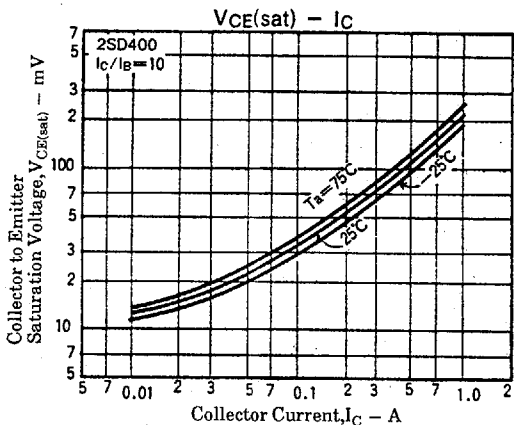
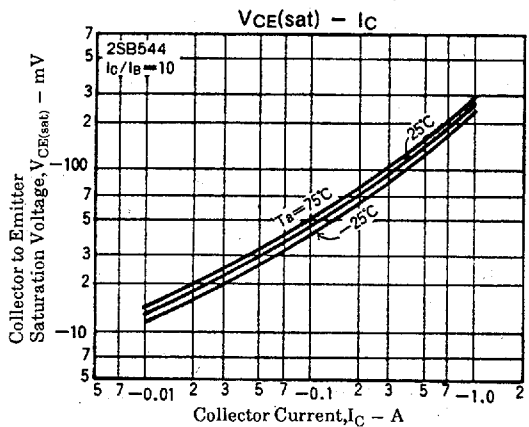
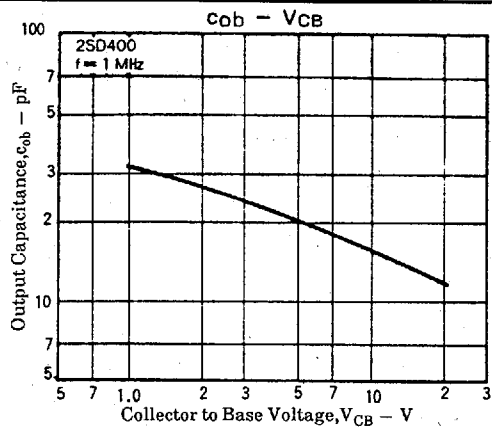
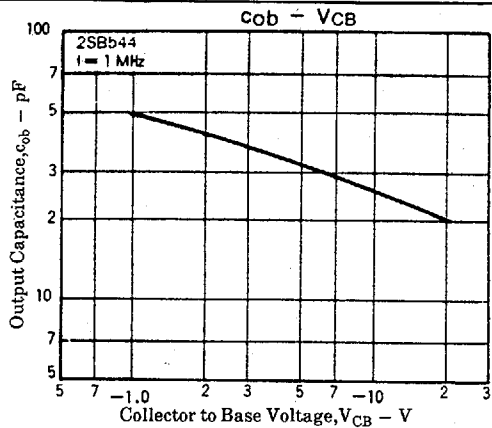
Specifications and information herein are subject to change without notice.

**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**  
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

2SB544/2SD400



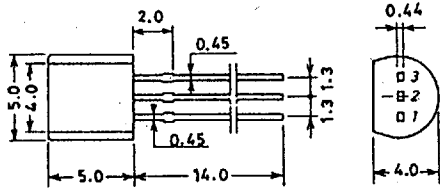
2SB544/2SD400



# 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.

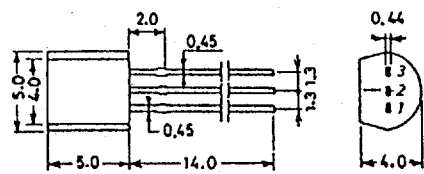
Case Outline 2003A/2003B (unit : mm)



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

1 : Emitter  
2 : Collector  
3 : Base

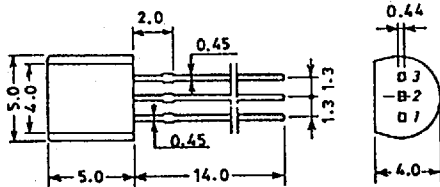
Case Outline 2019A/2019B (unit : mm)



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

1 : Source  
2 : Gate  
3 : Drain

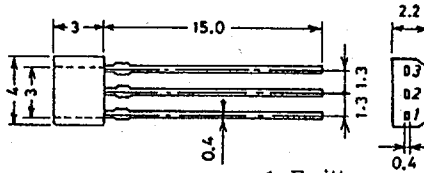
Case Outline 2004A (unit : mm)



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

1 : Base  
2 : Emitter  
3 : Collector

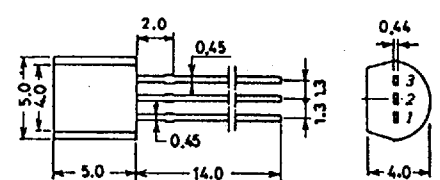
Case Outline 2033 (unit : mm)



1 : Emitter  
2 : Collector  
3 : Base

SANYO : SPA

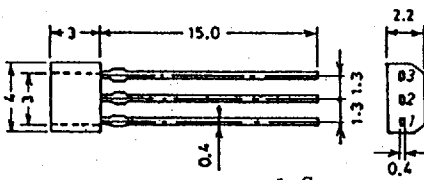
Case Outline 2005A (unit : mm)



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

1 : Drain  
2 : Source  
3 : Gate

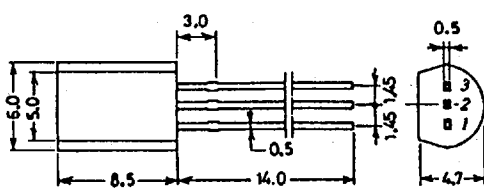
Case Outline 2034/2034A (unit : mm)



1 : Source  
2 : Gate  
3 : Drain

SANYO : SPA

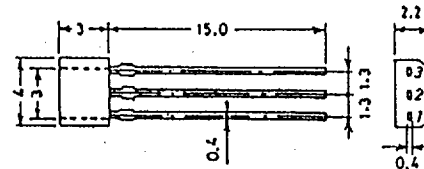
Case Outline 2006A (unit : mm)



EIAJ : SC-51  
SANYO : MP

1 : Emitter  
2 : Collector  
3 : Base

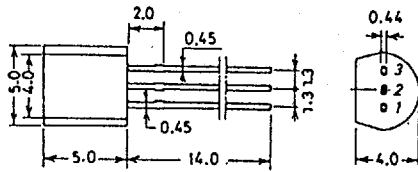
Case Outline 2040 (unit : mm)



1 : Drain  
2 : Source  
3 : Gate

SANYO : SPA

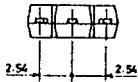
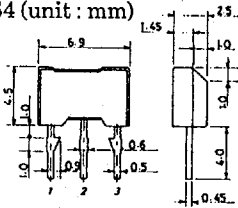
Case Outline 2061 (unit : mm)



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

1: Emitter  
2: Base  
3: Collector

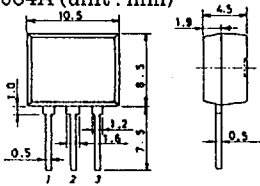
Case Outline 2064 (unit : mm)



1: Emitter  
2: Collector  
3: Base

SANYO : NMP

Case Outline 2084A (unit : mm)



1: Emitter  
2: Collector  
3: Base

SANYO : FLP