Ordering number: EN 199J

SANYO

No.199J

2SB544/2SD400

PNP/NPN Epitaxial Planar Silicon Transistors

Low-Frequency Power Amp, Electronic Governor Applications

( ) : 2SB544

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector to Base Voltage	V_{CBO}	(−)25	V
Collector to Emitter Voltage	V_{CEO}	(−)25	V
Emitter to Base Voltage	V_{EBO}	(−)5	V
Collector Current	I_C	(−)1	A
Collector Current(Pulse)	I_{CP}	(−)2	A
Collector Dissipation	P_C	900	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

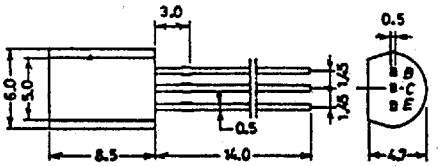
Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(−)20V, I_E=0			(−)1.0	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(−)4V, I_C=0			(−)1.0	μA
DC Current Gain	$h_{FE}(1)$	V_{CE}=(−)2V, I_C=(−)50mA	60※		560※	
	$h_{FE}(2)$	V_{CE}=(−)2V, I_C=(−)1A	30			
Gain-Bandwidth Product	f_T	V_{CE}=(−)10V, I_C=(−)50mA		180		MHz
Output Capacitance	c_{ob}	V_{CB}=(−)10V, f=1MHz		(25)		pF
				15		
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=(−)500mA, I_B=(−)50mA		(−)0.15	(−)0.7	V
				0.1	0.3	
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=(−)500mA, I_B=(−)50mA		(−)0.85	(−)1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=(−)10μA, I_E=0	(−)25			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=(−)1mA, R_{BE}=∞	(−)25			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=(−)10μA, I_C=0	(−)5			V

※ : The 2SB544/2SD400 are classified by 50mA h_{FE} as follows :

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

Case Outline 2006A
(unit : mm)



EIAJ: SC-51
SANYO: MP

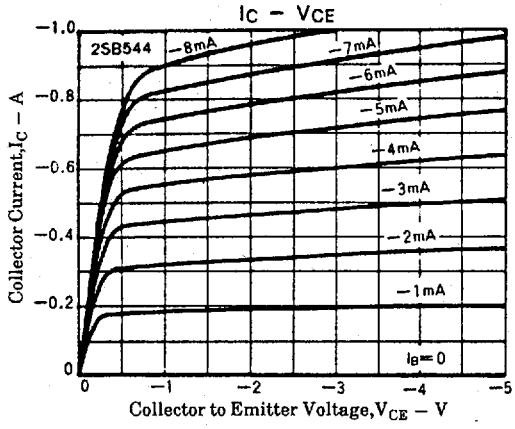
B: Base
C: Collector
E: Emitter

Specifications and information herein are subject to change without notice.

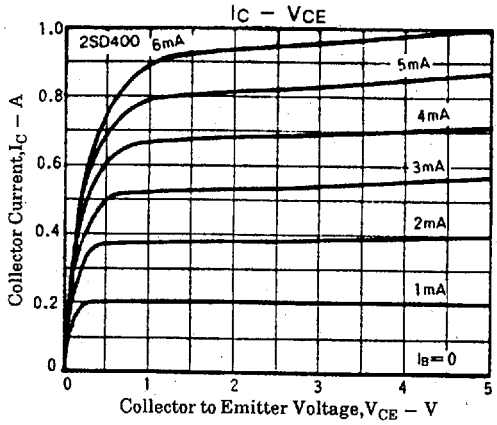
SANYO Electric Co.,Ltd. Semiconductor Business Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10,1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

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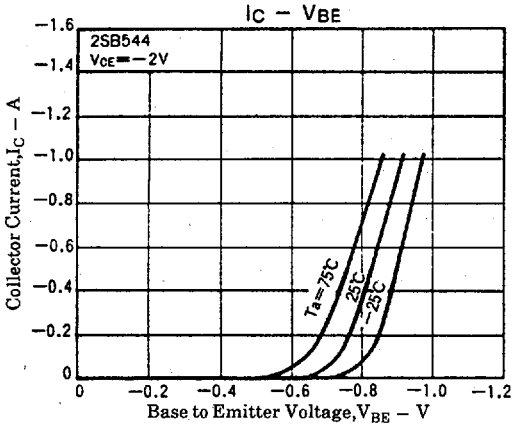
$I_C - V_{CE}$



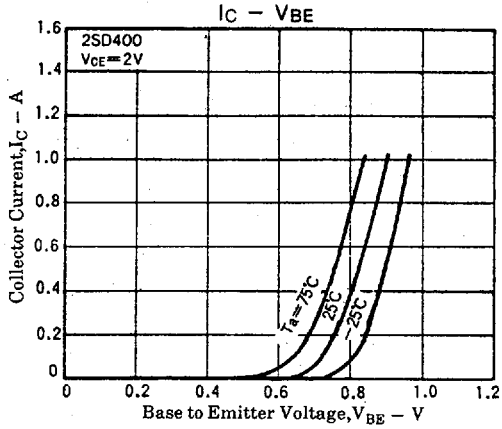
$I_C - V_{CE}$



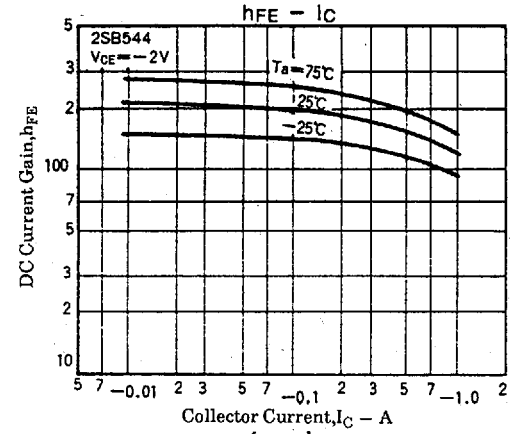
$I_C - V_{BE}$



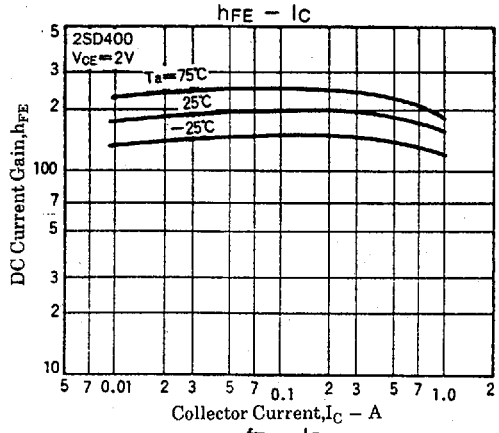
$I_C - V_{BE}$



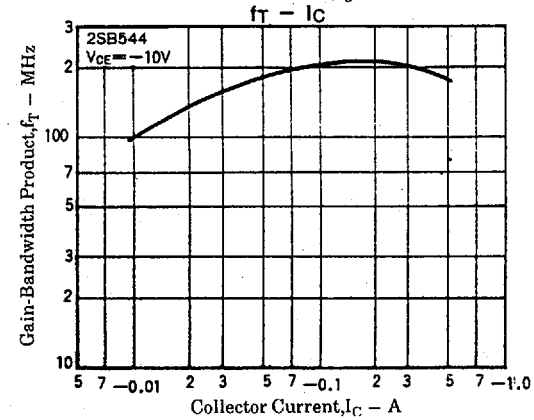
$h_{FE} - I_C$



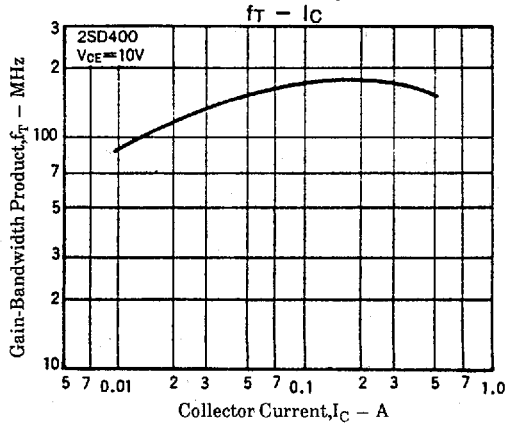
$h_{FE} - I_C$



$f_T - I_C$

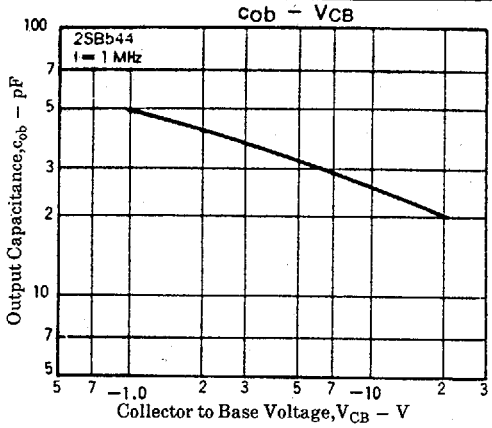


$f_T - I_C$

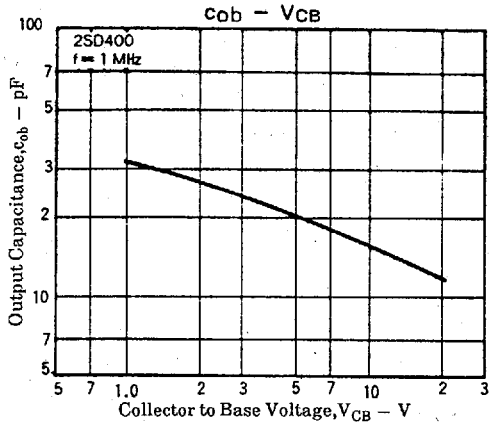


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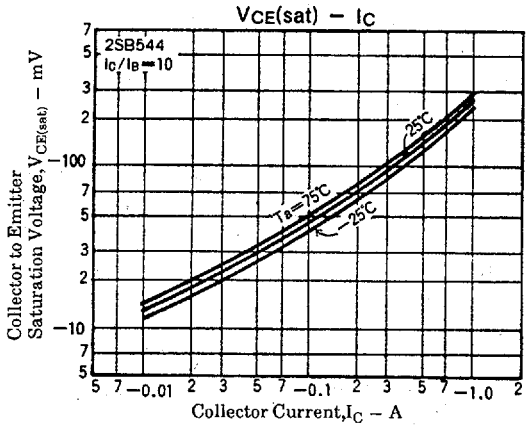
Cob – VCB



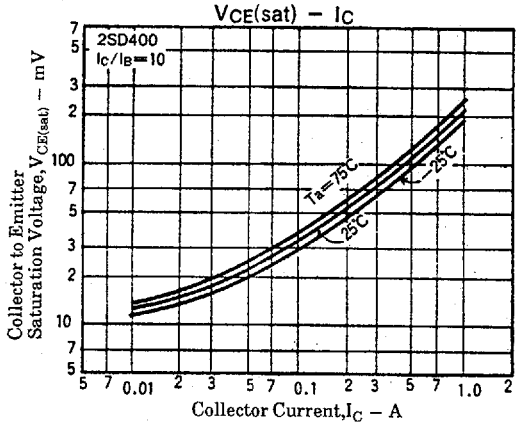
Cob – VCB



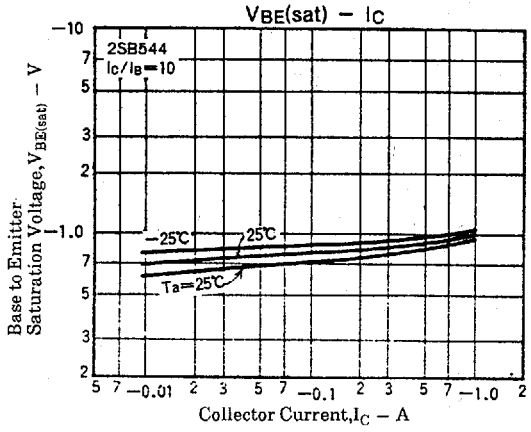
VCE(sat) – IC



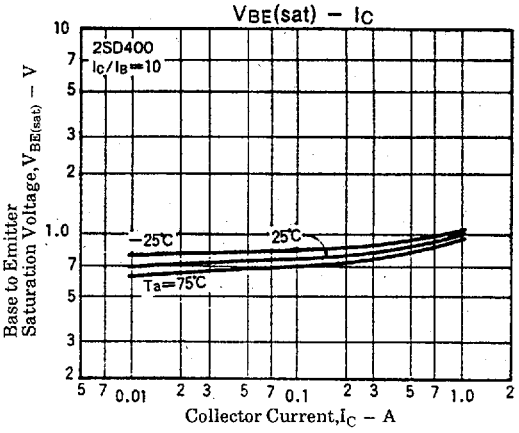
VCE(sat) – IC



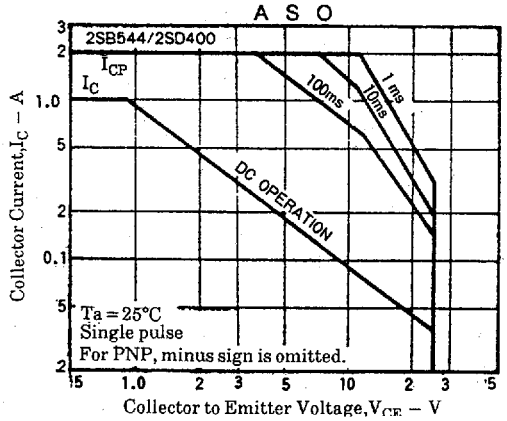
VBE(sat) – IC



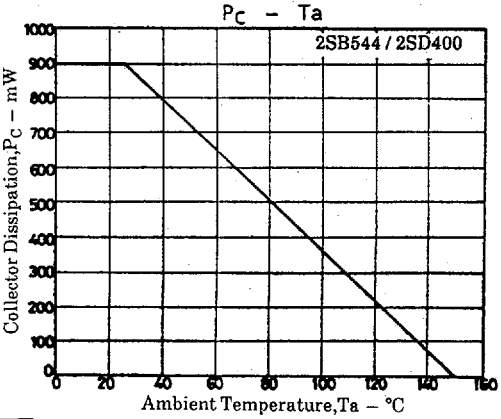
VBE(sat) – IC



A S O



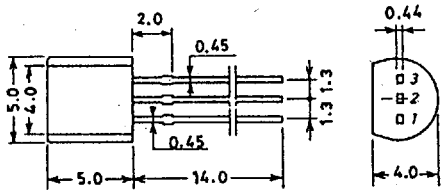
PC – Ta



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.

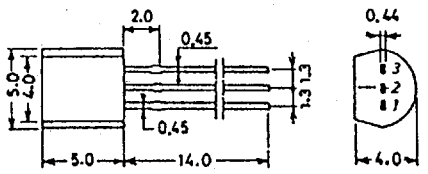
Case Outline 2003A/2003B (unit : mm)



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

1 : Emitter
2 : Collector
3 : Base

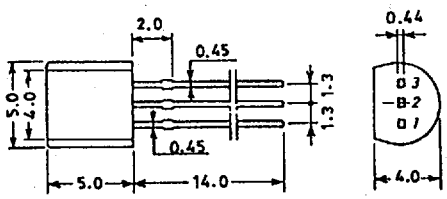
Case Outline 2019A/2019B (unit : mm)



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

1 : Source
2 : Gate
3 : Drain

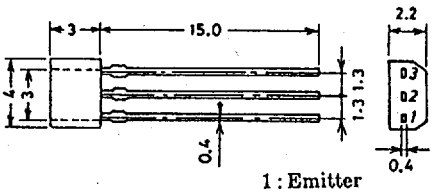
Case Outline 2004A (unit : mm)



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

1 : Base
2 : Emitter
3 : Collector

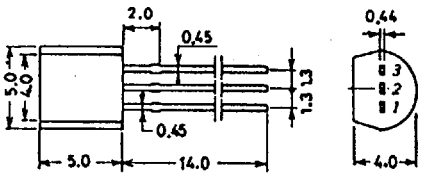
Case Outline 2033 (unit : mm)



1 : Emitter
2 : Collector
3 : Base

SANYO : SPA

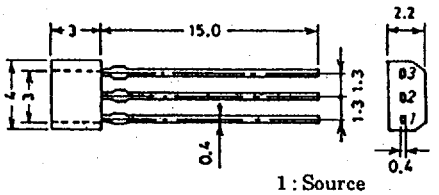
Case Outline 2005A (unit : mm)



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

1 : Drain
2 : Source
3 : Gate

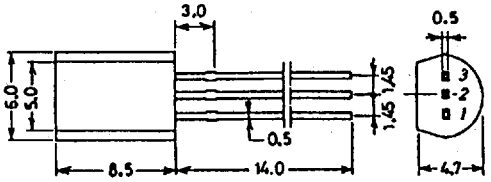
Case Outline 2034/2034A (unit : mm)



1 : Source
2 : Gate
3 : Drain

SANYO : SPA

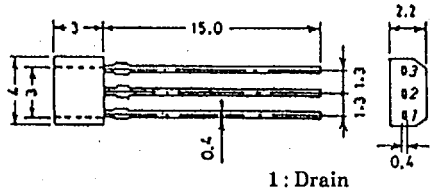
Case Outline 2006A (unit : mm)



EIAJ : SC-51
SANYO : MP

1 : Emitter
2 : Collector
3 : Base

Case Outline 2040 (unit : mm)

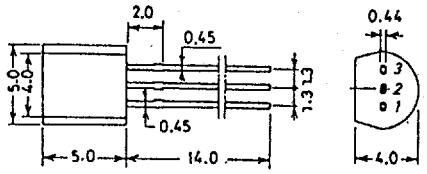


1 : Drain
2 : Source
3 : Gate

SANYO : SPA

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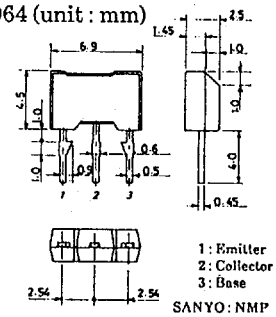
Case Outline 2061 (unit : mm)



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

1 : Emitter
2 : Base
3 : Collector

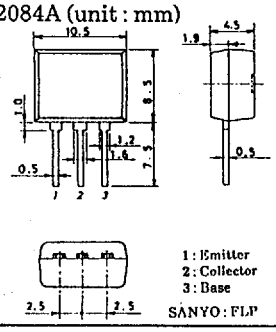
Case Outline 2064 (unit : mm)



1 : Emitter
2 : Collector
3 : Base

SANYO : NMP

Case Outline 2084A (unit : mm)



1 : Emitter
2 : Collector
3 : Base

SANYO : FLP