



SANYO Semiconductors

DATA SHEET

2SA1782  
2SC4640

PNP/NPN Epitaxial Planar Silicon Transistors

Low-Frequency

General-Purpose Amp Applications

Features

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

( ) : 2SA1782

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector to Base Voltage	V <sub>CB0</sub>	(- )55	V
Collector to Emitter Voltage	V <sub>CEO</sub>	(- )50	V
Emitter to Base Voltage	V <sub>EBO</sub>	(- )6	V
Collector Current	I <sub>C</sub>	(- )150	mA
Collector Current (Pulse)	I <sub>CP</sub>	(- )300	mA
Base Current	I <sub>B</sub>	(- )30	mA
Collector Dissipation	P <sub>C</sub>	300	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> = (- )35V, I <sub>E</sub> = 0			(- )0.1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = (- )4V, I <sub>C</sub> = 0			(- )0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = (- )6V, I <sub>C</sub> = (- )1mA	140*		560*	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = (- )6V, I <sub>C</sub> = (- )10mA		200 (180)		MHz
Output Capacitance	c <sub>ob</sub>	V <sub>CB</sub> = (- )6V, f = 1MHz		2.0 (3.3)		pF
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = (- )50mA, I <sub>B</sub> = (- )5mA		0.08 (-0.11)	(- )0.4	V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = (- )50mA, I <sub>B</sub> = (- )5mA		(-0.8)	(- )1.0	V
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = (- )10μA, I <sub>E</sub> = 0	(- )55			V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = (- )1mA, R <sub>BE</sub> = ∞	(- )50			V
E-B Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = (- )10μA, I <sub>C</sub> = 0	(- )6			V

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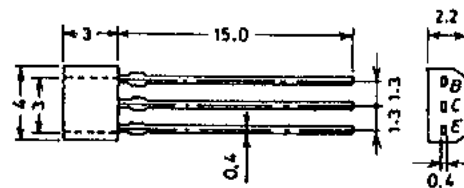
\* : The 2SA1782/2SC4640 are classified by 1mA h<sub>FE</sub> as follows :

140	S	280	200	T	400	280	U	560
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h<sub>FE</sub> rank : S, T, U

Case Outline 2033

(unit : mm)



B: Base  
C: Collector  
E: Emitter

SANYO: SPA

Specifications and information herein are subject to change without notice.

SANYO Electric Co.,Ltd. Semiconductor Company

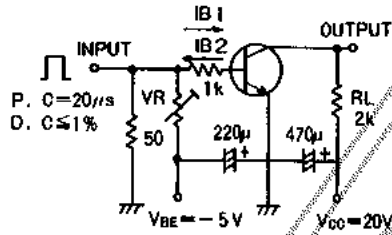
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

4260MO,TS No.3362-1/4

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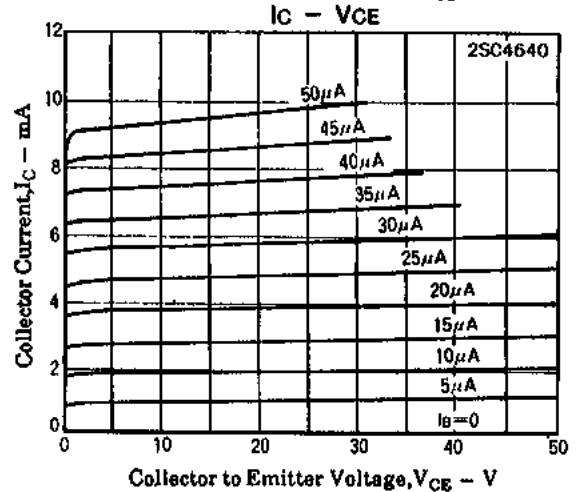
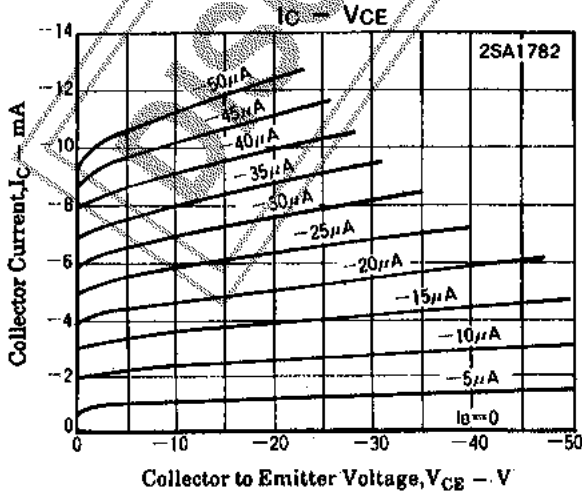
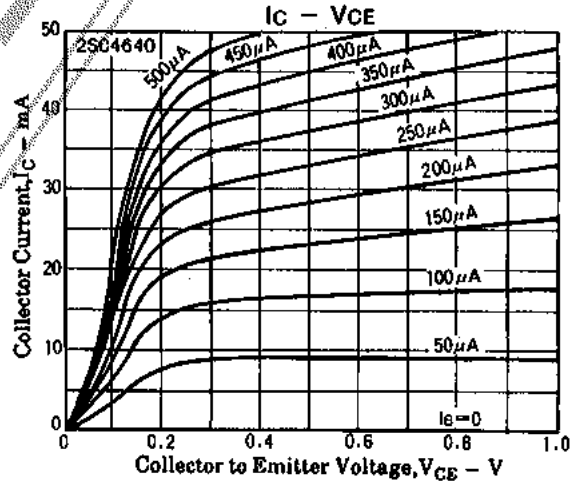
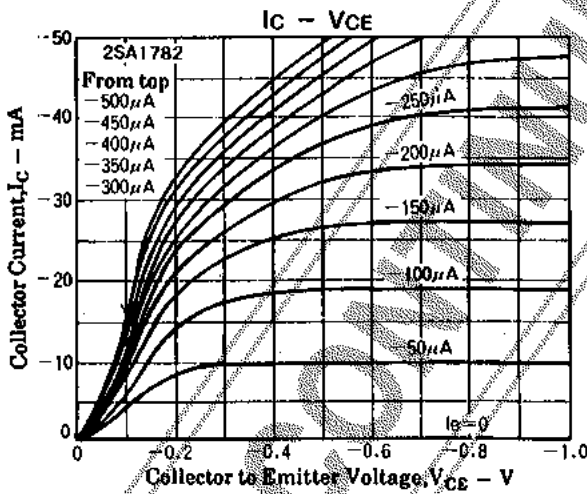
			min	typ	max	unit
Turn-ON Time	$t_{on}$	See specified Test Circuit.		0.15		$\mu s$
Storage Time	$t_{atg}$	"		0.75		$\mu s$
				(0.60)		
Fall Time	$t_f$	"		0.20		$\mu s$

Switching Time Test Circuit

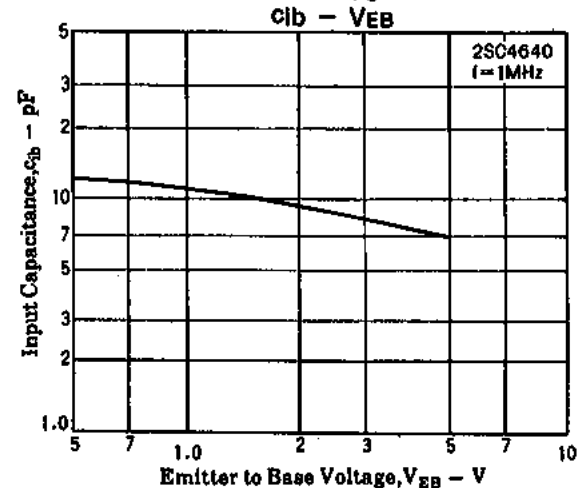
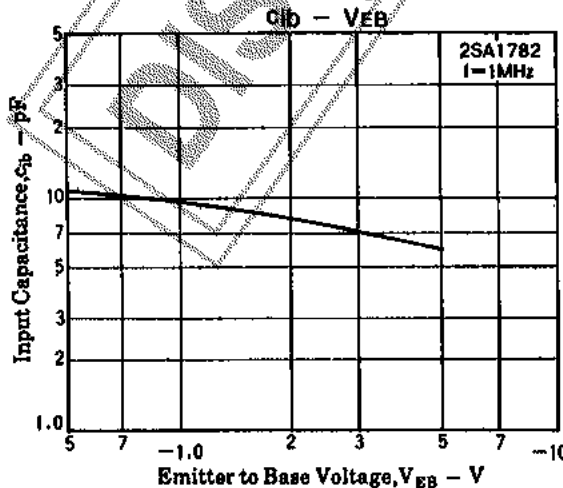
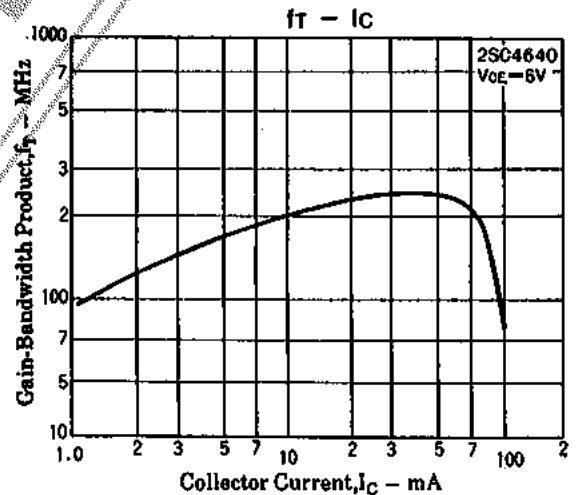
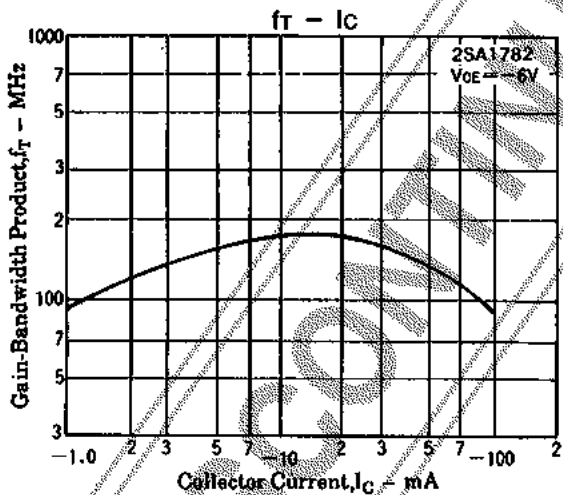
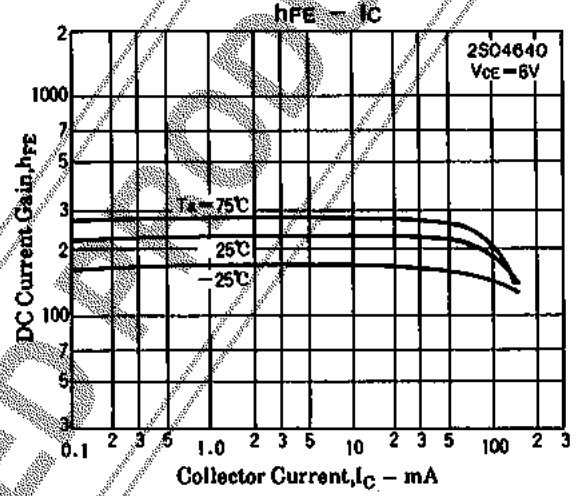
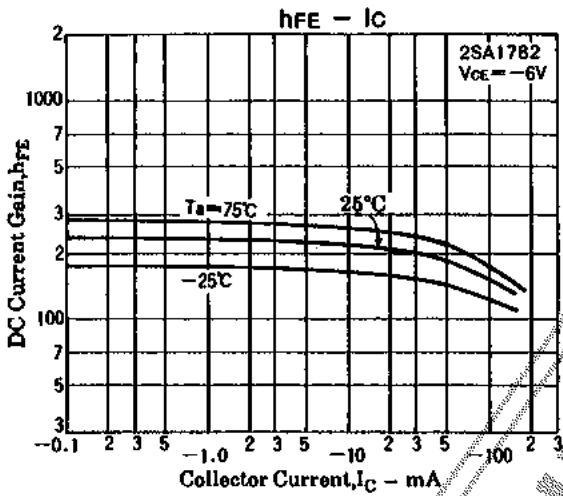
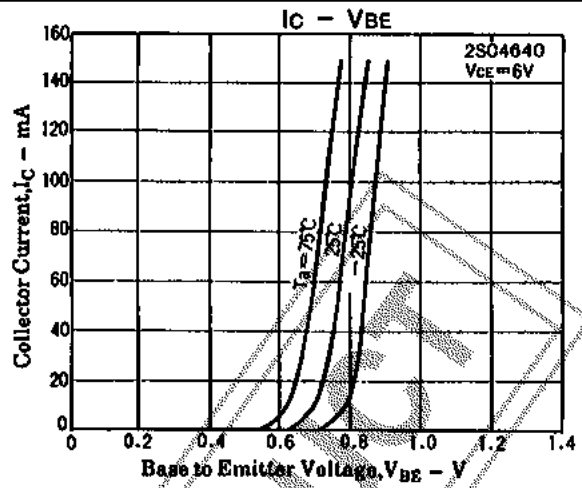
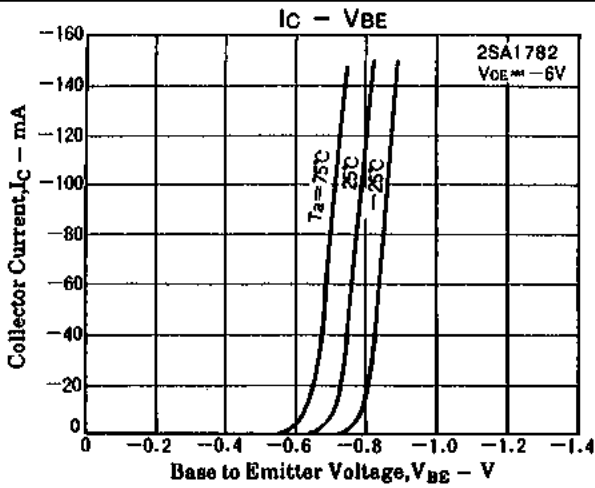


$10I_{B1} = -10I_{B2} = I_C = 10mA$   
 (For PNP, the polarity is reversed.)

Unit (Resistance :  $\Omega$  , Capacitance : F)



2SA1782/2SC4640



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