Ordering number: EN 3362

No.3362

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_{CBO}	(−)55	V
Collector to Emitter Voltage	V_{CEO}	(−)50	V
Emitter to Base Voltage	V_{EBO}	(−)6	V
Collector Current	I_C	(−)150	mA
Collector Current (Pulse)	I_{CP}	(−)300	mA
Base Current	I_B	(−)30	mA
Collector Dissipation	P_C	300	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} = (−)35V, I_E = 0			(−)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = (−)4V, I_C = 0			(−)0.1	μA
DC Current Gain	h_{FE}	V_{CE} = (−)6V, I_C = (−)1mA	140※		560※	
Gain-Bandwidth Product	f_T	V_{CE} = (−)6V, I_C = (−)10mA		200 (180)		MHz
Output Capacitance	c_{ob}	V_{CB} = (−)6V, f = 1MHz		2.0 (3.3)		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = (−)50mA, I_B = (−)5mA		0.08 (−0.11)	(−)0.4	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = (−)50mA, I_B = (−)5mA		(−0.8)	(−)1.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C = (−)10μA, I_E = 0	(−)55			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C = (−)1mA, R_{BE} = ∞	(−)50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E = (−)10μA, I_C = 0	(−)6			V

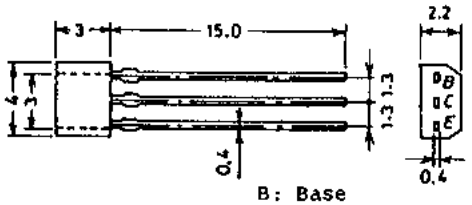
Continued on next page.

※ : The 2SA1782/2SC4640 are classified by 1mA h_{FE} as follows :

140 S 280	200 T 400	280 U 560

h_{FE} 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.

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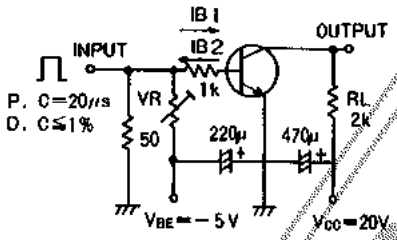
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

Continued from preceding page.

			min	typ	max	unit
Turn-ON Time	t_{on}	See specified Test Circuit.		0.15		μs
Storage Time	t_{stg}	〃		0.75 (0.60)		μs
Fall Time	t_f	〃		0.20		μs

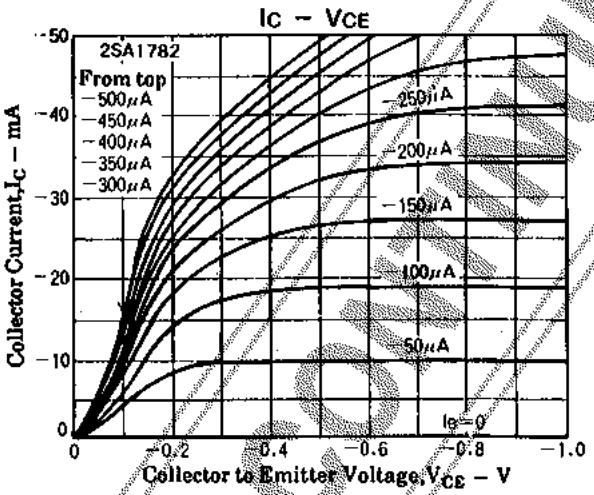
Switching Time Test Circuit

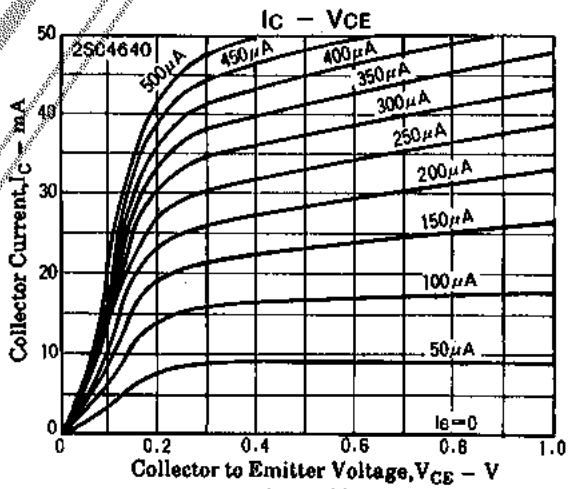


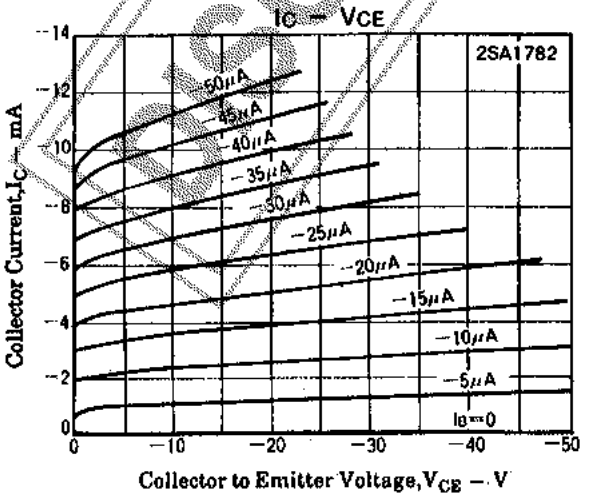
$10I_{B1} = -10I_{B2} = IC = 10mA$

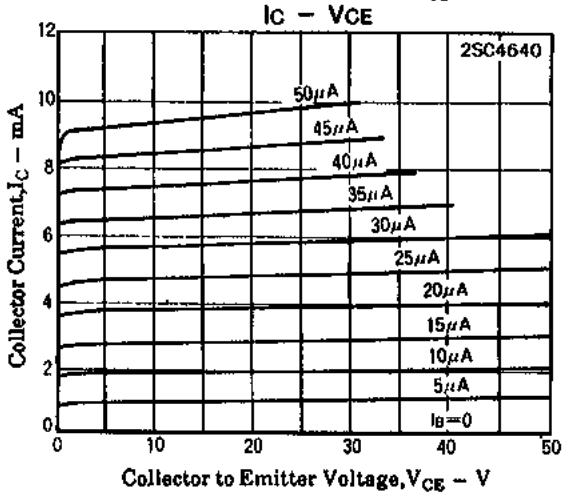
(For PNP, the polarity is reversed.)

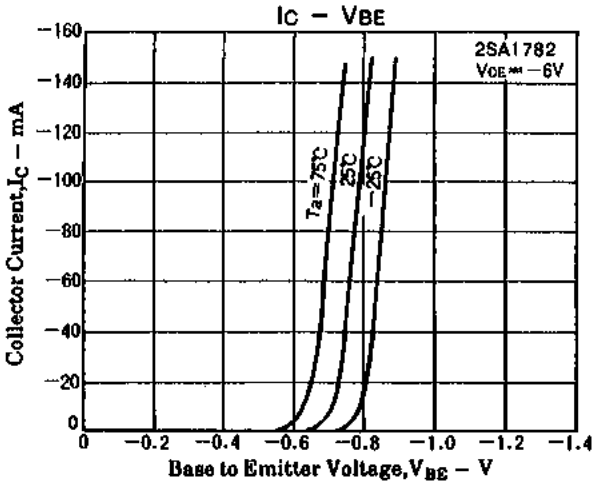
Unit(Resistance : Ω , Capacitance : F)

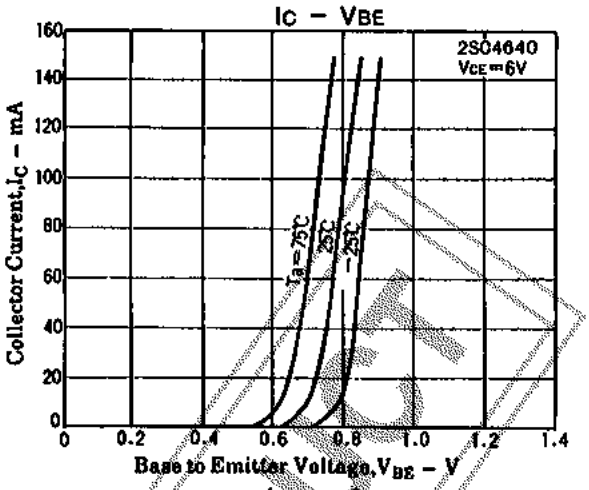


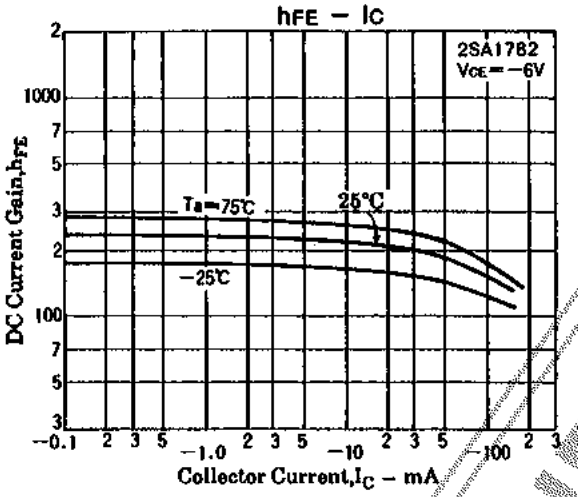


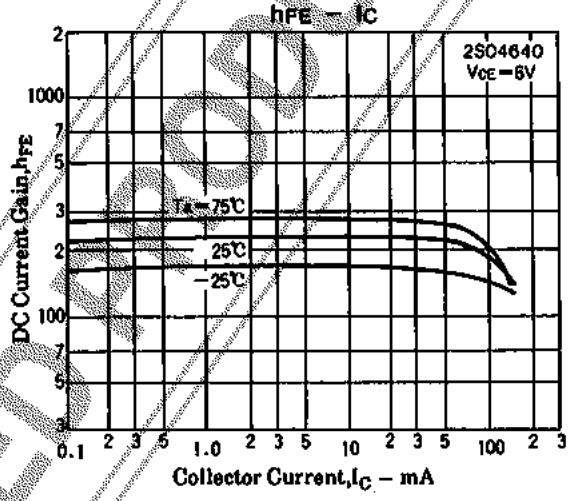


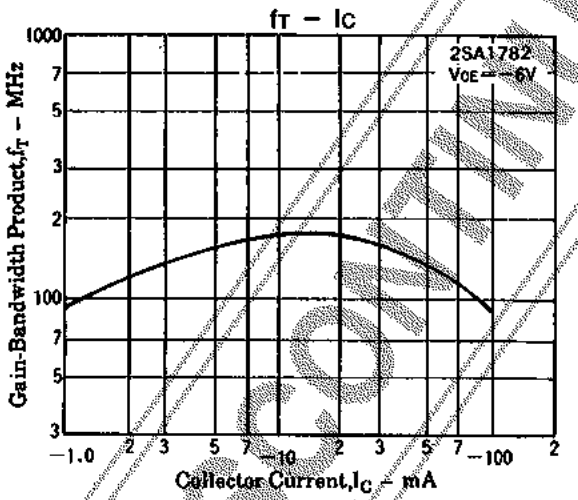


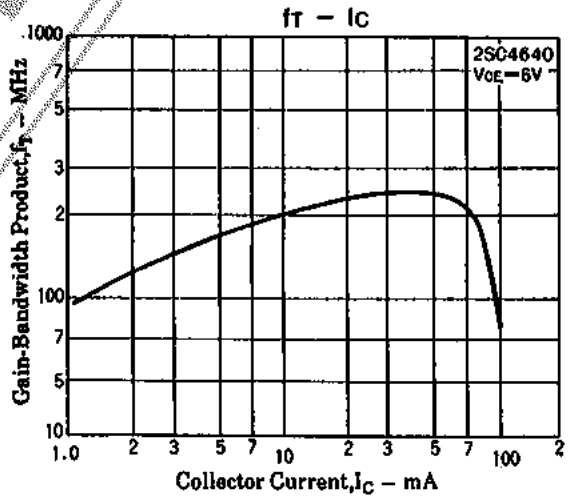


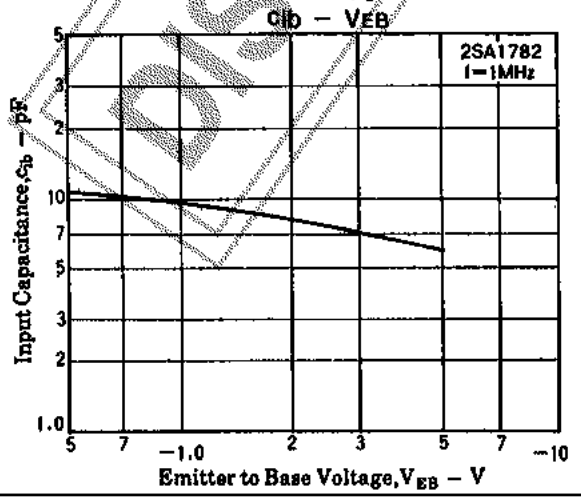


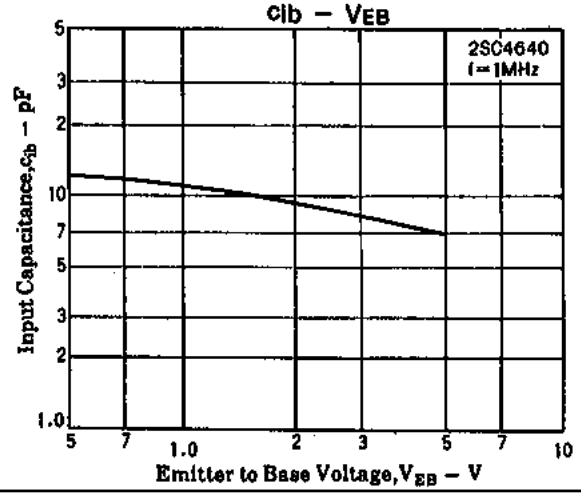




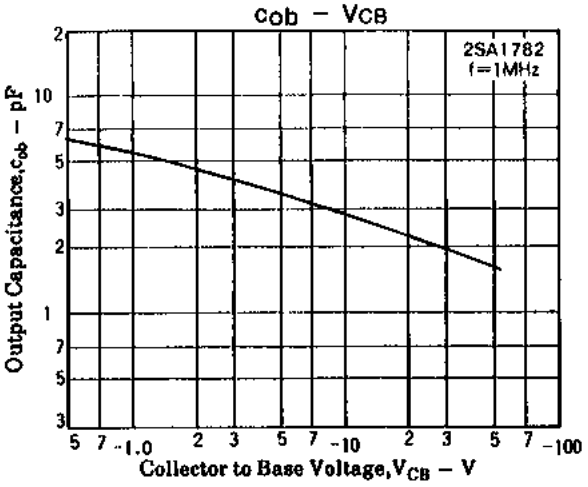




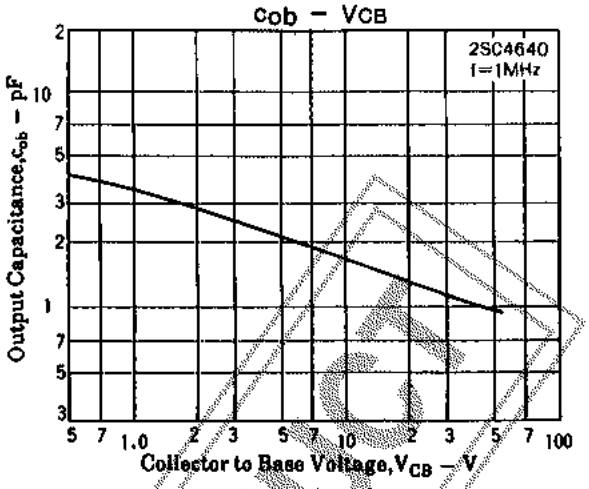




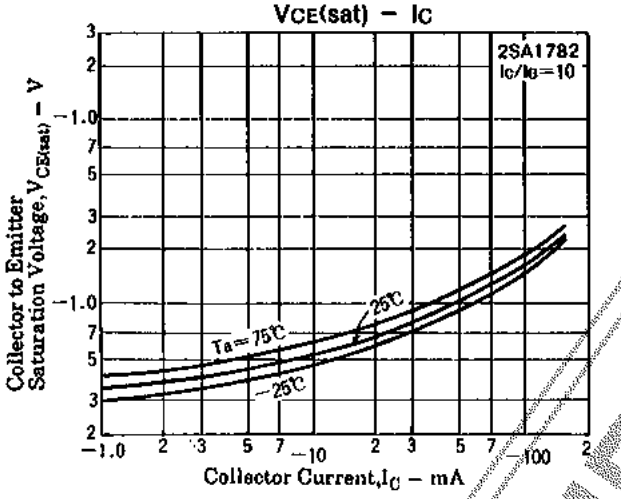
Cob – VCB



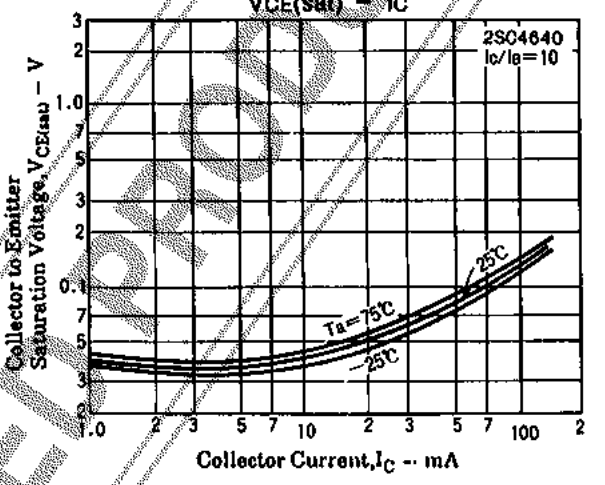
Cob – VCB



VCE(sat) – IC



VCE(sat) – IC



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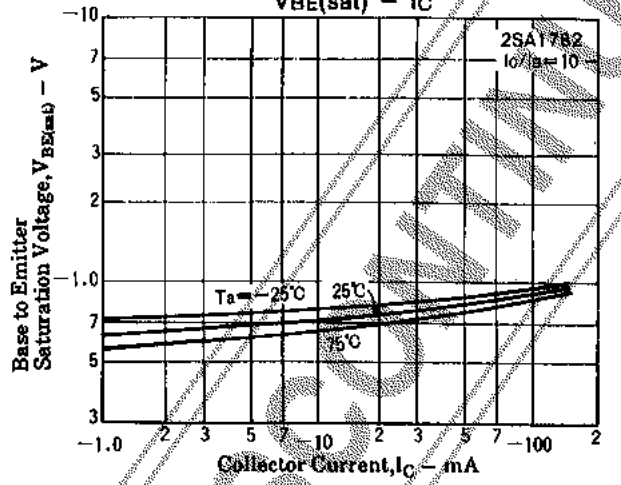
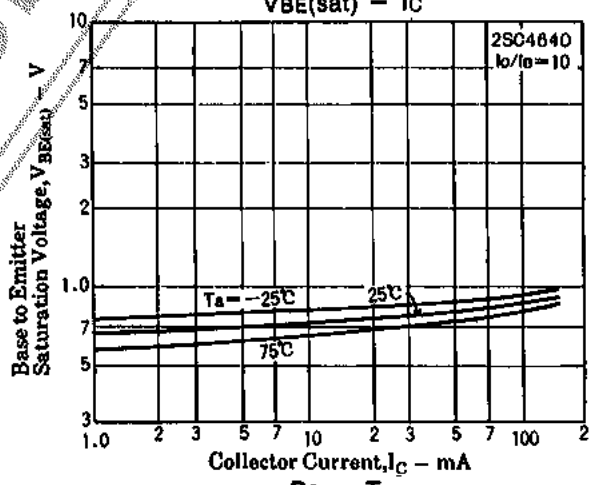


VBE(sat) – IC



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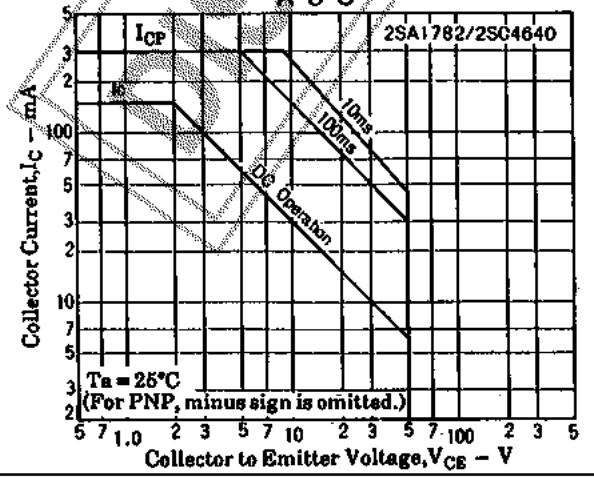

PC – Ta