Ordering number: EN 3340

No.3340

2SA1783/2SC4641

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.

( ) : 2SA1783

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	500	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

Electrical Characteristics at Ta = 25°C

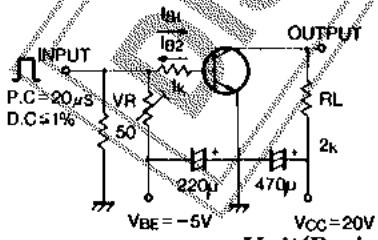
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(−)35V, I_E=0			(−)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(−)4V, I_C=0			(−)0.1	μA
DC Current Gain	h_{FE}	V_{CE}=(−)6V, I_C=(−)1mA	140※		560※	
Gain-Bandwidth Product	f_T	V_{CE}=(−)6V, I_C=(−)10mA		200 (180)		MHz
Output Capacitance	c_{ob}	V_{CB}=(−)6V, f=1MHz		2.2 (3.5)		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
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

※ : The 2SA1783/2SC4641 are classified by 1mA h_{FE} as follows :

140 S 280	200 T 400	280 U 560

h_{FE} rank : S, T, U

Switching Time Test Circuit



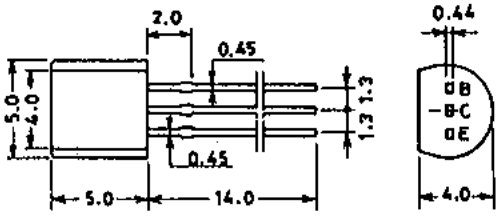
Unit(Resistance : Ω , Capacitance : F)

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

(For PNP, the polarity is reversed.)

Case Outline 2003A

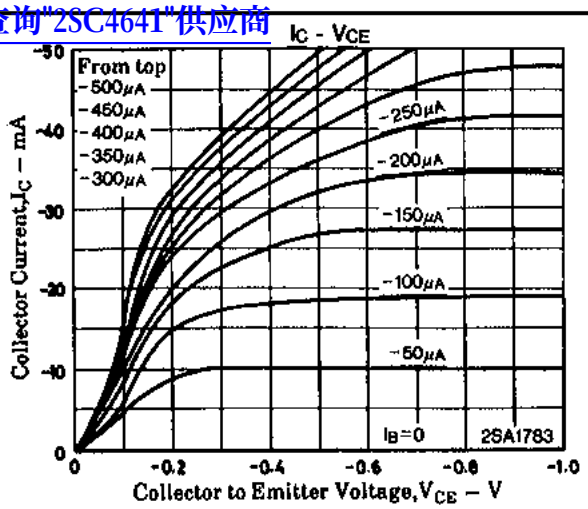
(unit : mm)

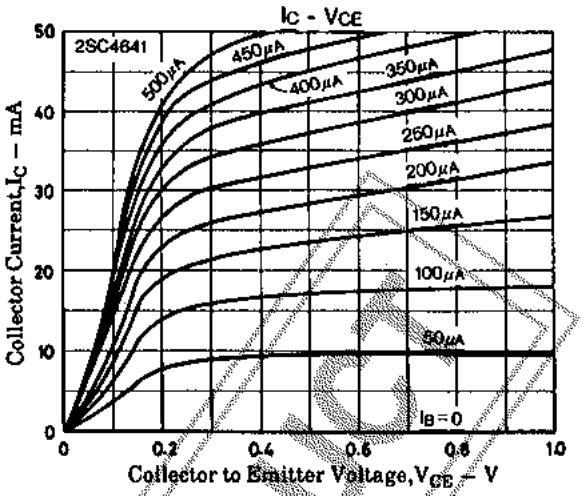


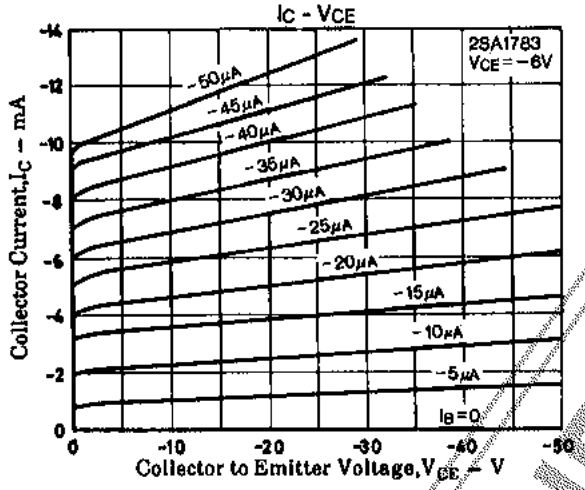
JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

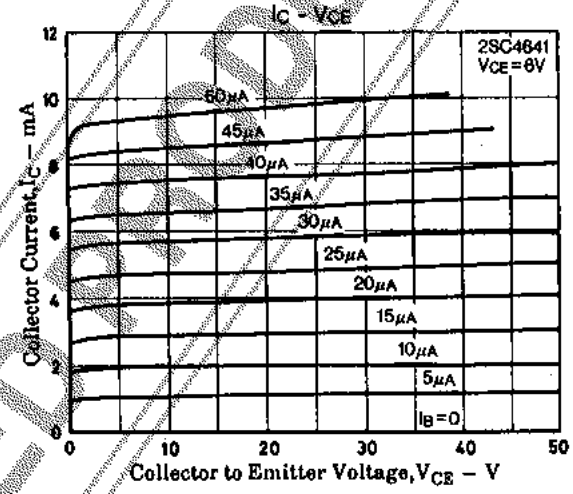
B: Base
C: Collector
E: Emitter

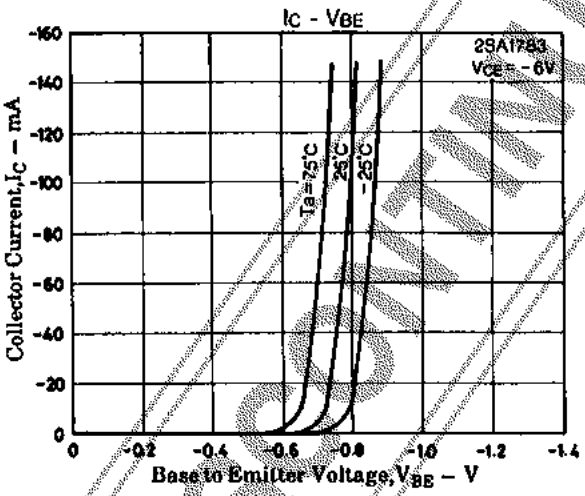
Specifications and information herein are subject to change without notice.

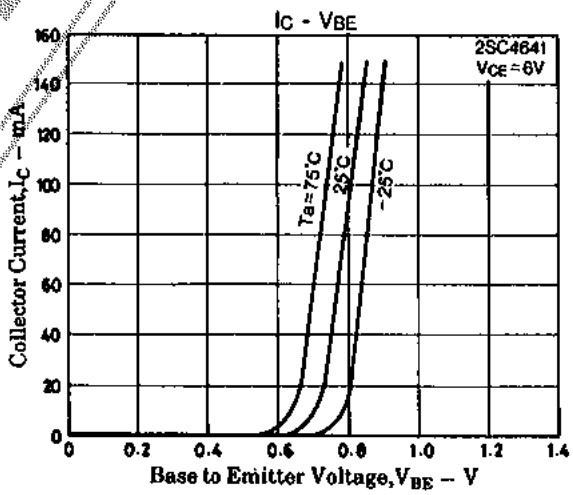


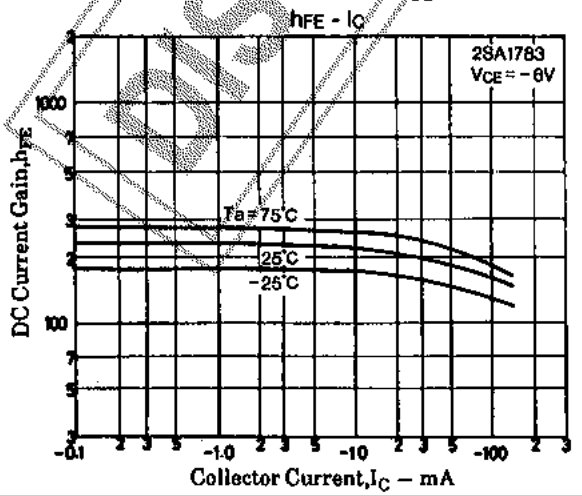


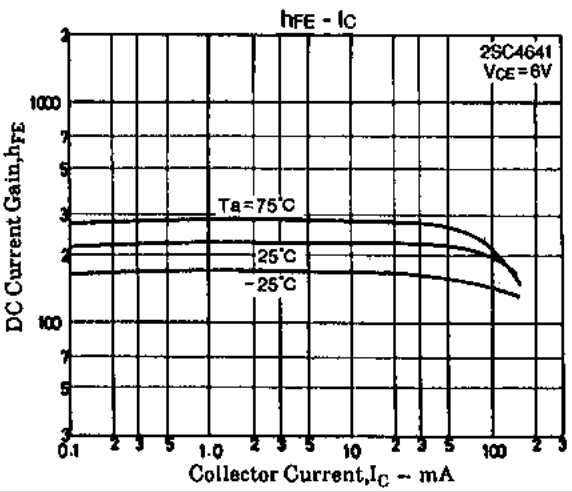


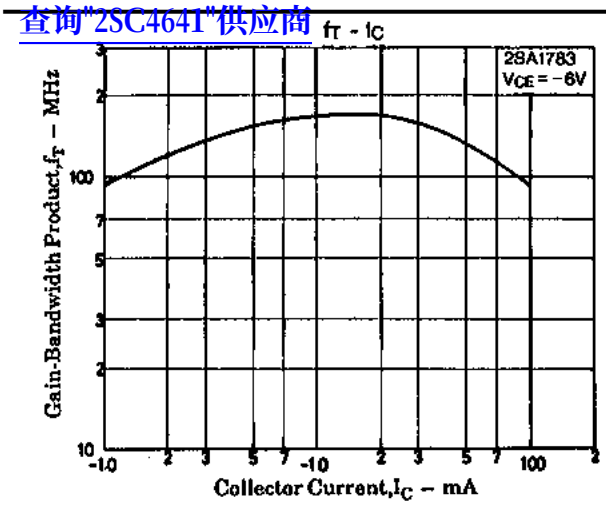


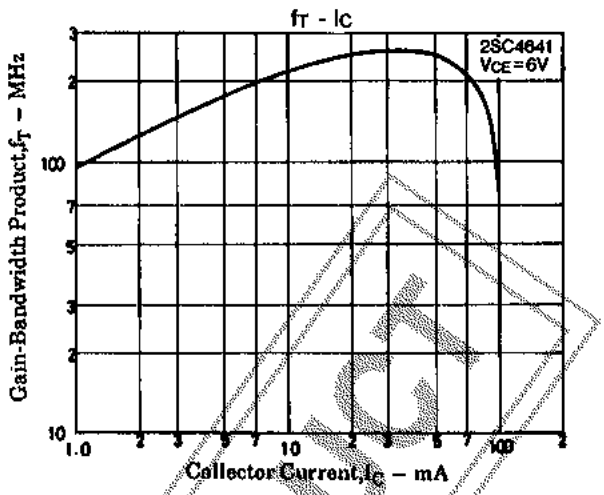


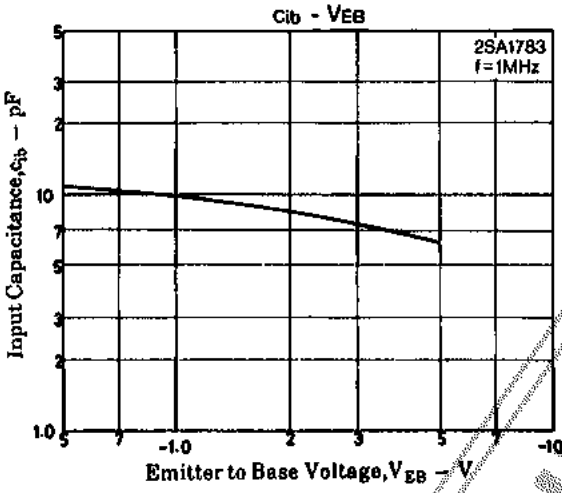


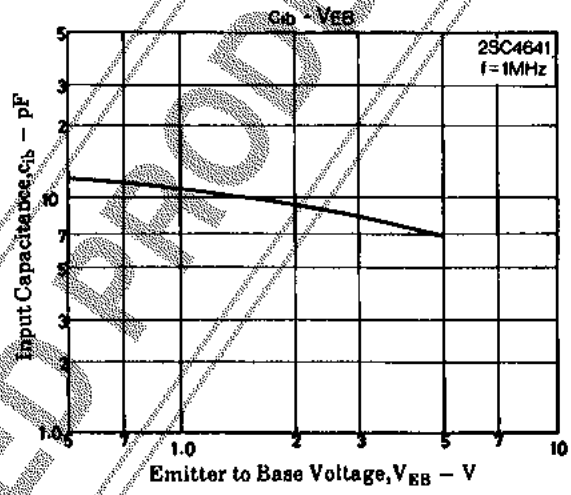


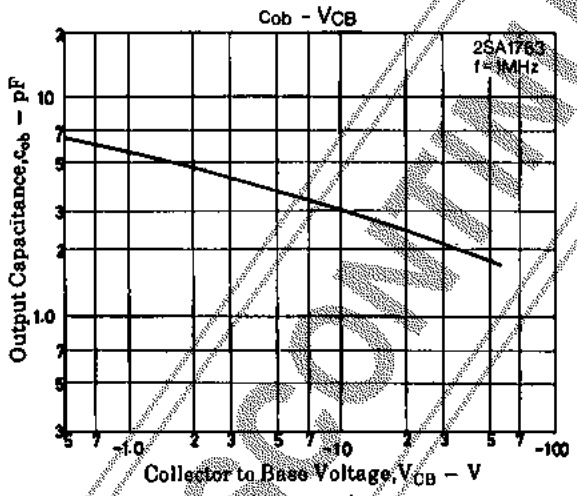


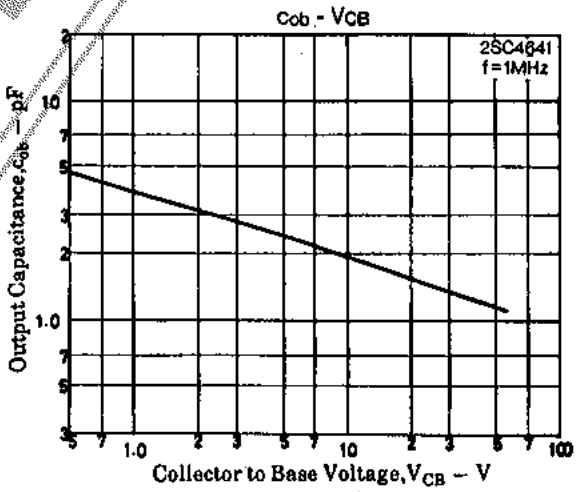


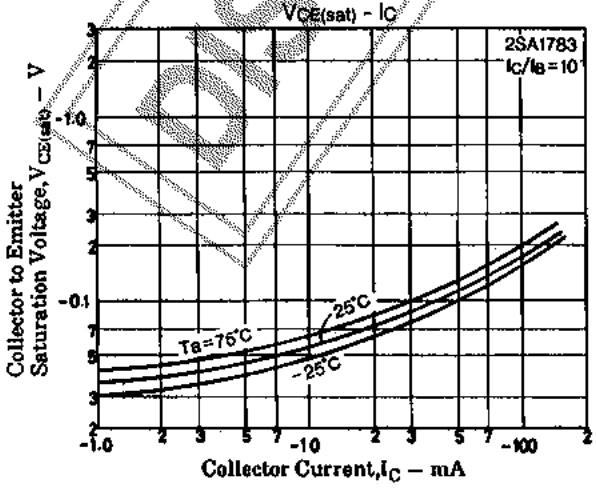


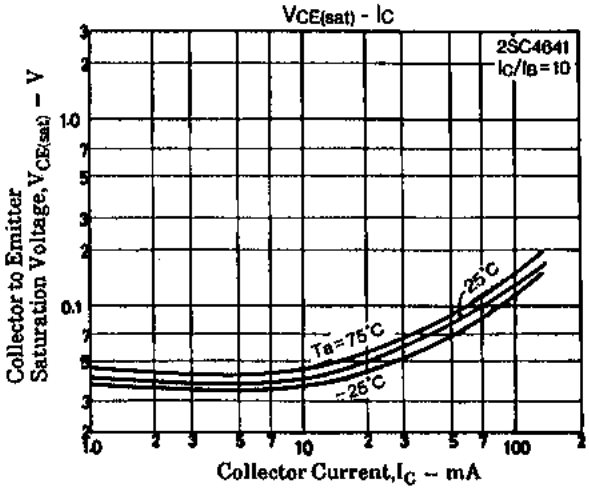




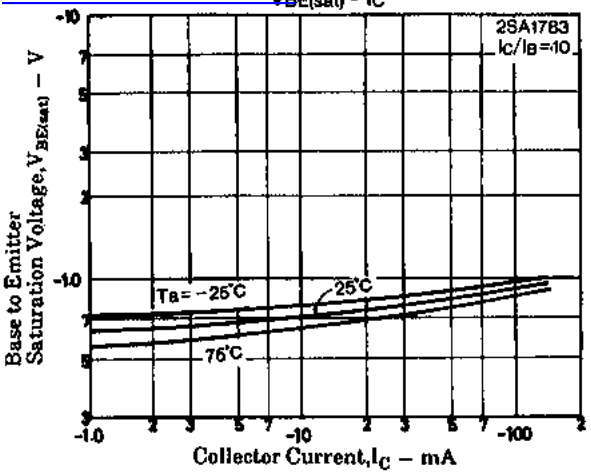








VBE(sat) - IC



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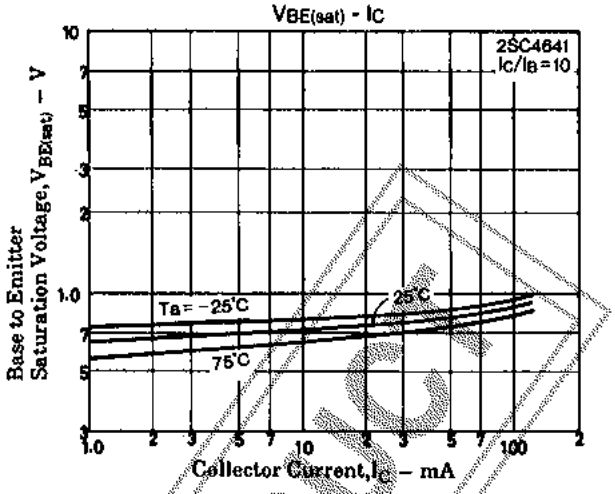
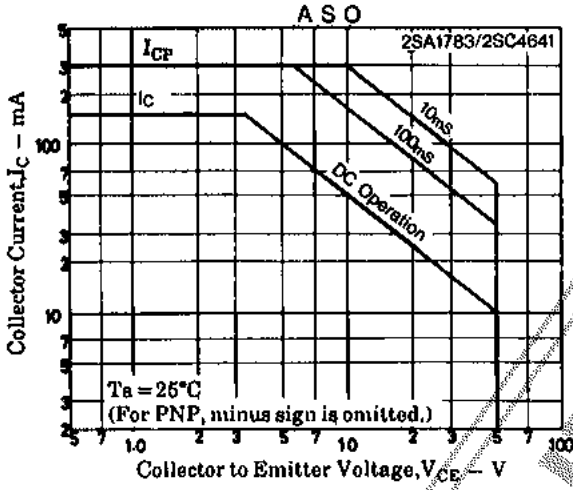


ASO



PC - Ta