Ordering number:4661

PNP/NPN Epitaxial Planar Silicon Transistor

2SA1881/2SC4983

Low-Frequency General-Purpose Amplifier Applications

Features

· AF power amplifier, medium-speed switching, small-sized motor drivers and LED drivers.

Features

· Large current capacity.
· Low collector-to-emitter saturation voltage.
· Very small-sized pakage permitting 2SA1881/ 2SC4983-appied set to be made smaller and slimmer.

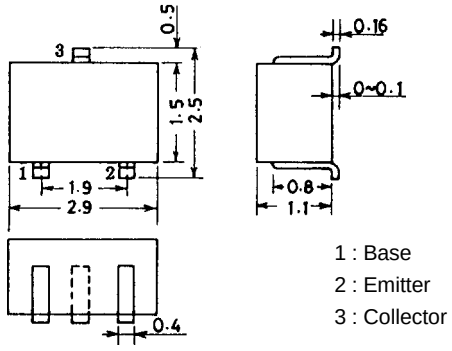
( ) : 2SA1881

Package Dimensions

unit:mm

2018B

[2SA1881/2SC4983]



1 : Base
2 : Emitter
3 : Collector

SANYO : CP

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)15	V
Collector-to-Emitter Voltage	V_{CEO}		(–)15	V
Emitter-to-Base Voltage	V_{EBO}		(–)5	V
Collector Current	I_C		(–)1	A
Collector Current (Pulse)	I_{CP}		(–)3	A
Base Current	I_B		(–)200	mA
Collector Dissipation	P_C		250	mW
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)12V, I_E=0			(–)100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)4V, I_C=0			(–)100	nA
DC Current Gain	$h_{FE}1$	V_{CE}=(–)2V, I_C=(–)50mA	135*		600*	
	$h_{FE}2$	V_{CE}=(–)2V, I_C=(–)800mA	80			
Gain-Bandwidth Product	f_T	V_{CE}=(–)2V, I_C=(–)50mA		(300)		MHz
				200		MHz
Output Capacitance	C_{ob}	V_{CB}=(–)10V, f=1MHz		(15)10		pF

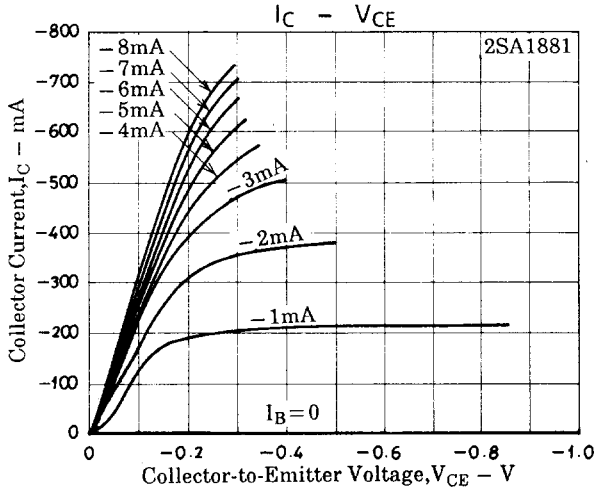
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

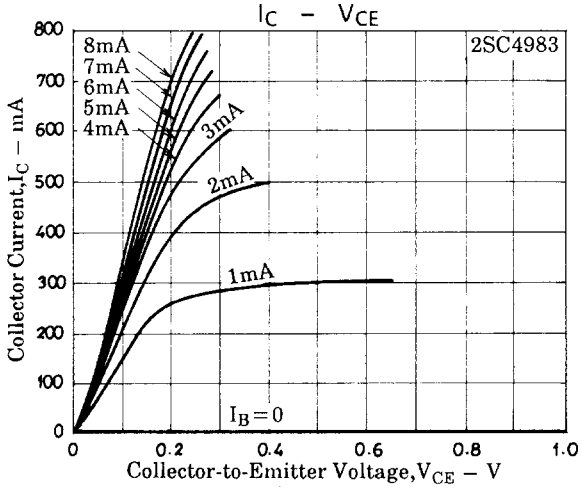
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}1$	I_C=(–)5mA, I_B=(–)0.5mA		(–)10	(–)25	mV
	$V_{CE(sat)}2$	I_C=(–)500mA, I_B=(–)25mA		(–)120	(–)240	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(–)500mA, I_B=(–)25mA		(–)0.9	(–)1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=–10μA, I_E=0	(–)15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=–1mA, R_{BE}=∞	(–)15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=–10μA, I_C=0	(–)5			V

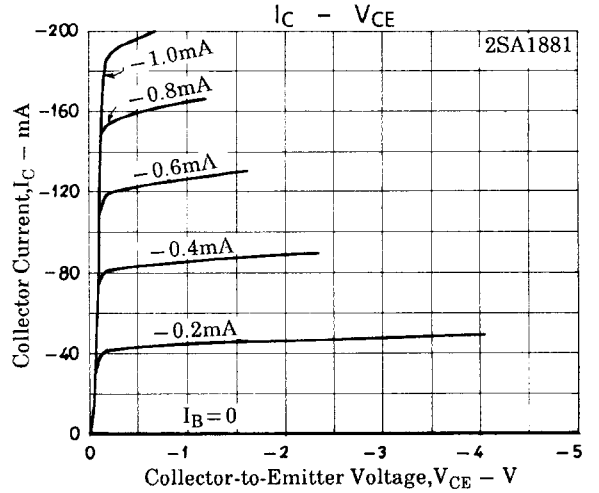
* : The 2SA1881/2SC4983 are classified by 50mA h_{FE} as follows :

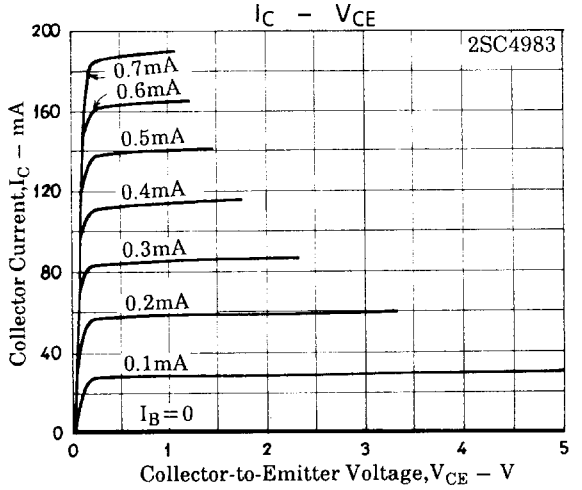
135 5 270	200 6 400	300 7 600

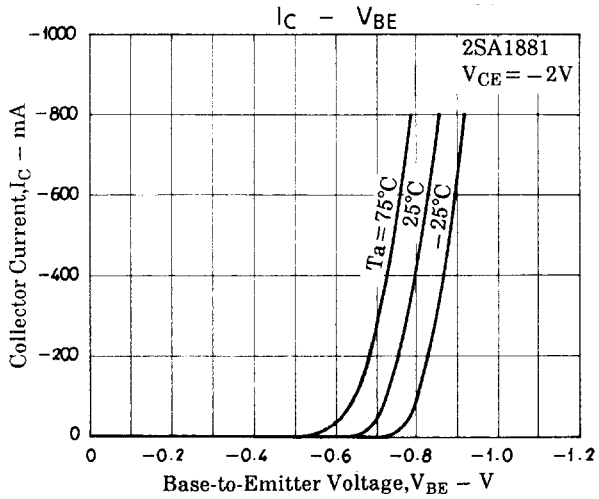
Marking : 2SA1881 : IS
2SC4983 : KN

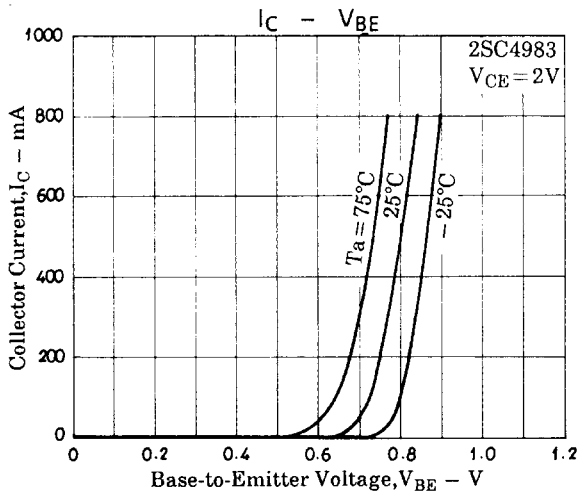


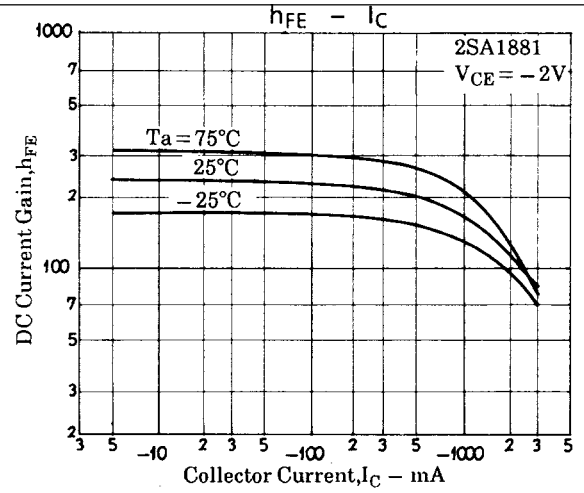


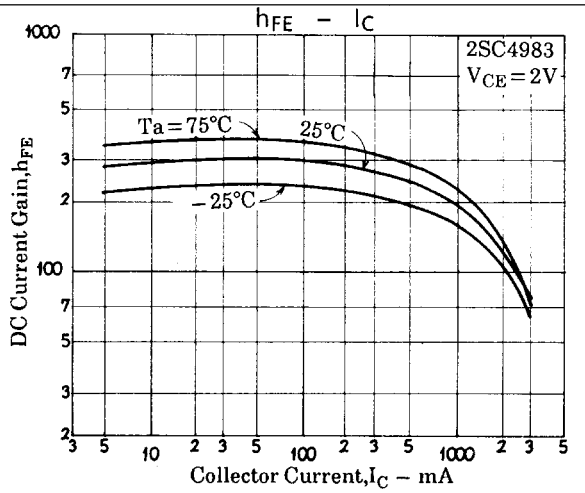


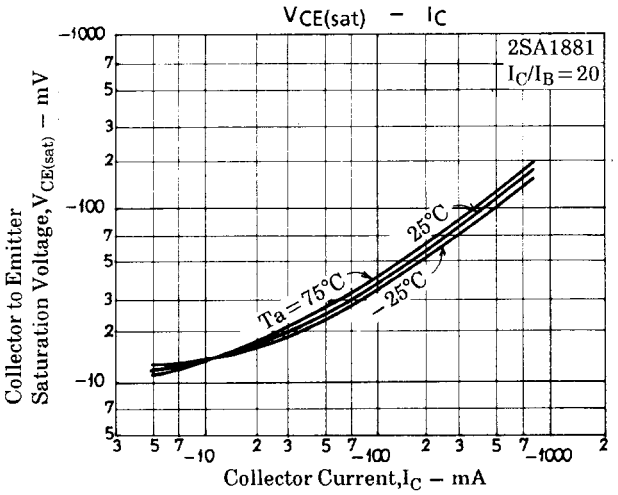


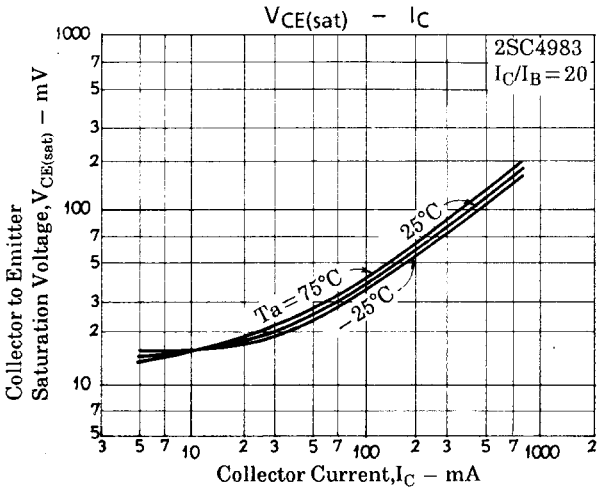


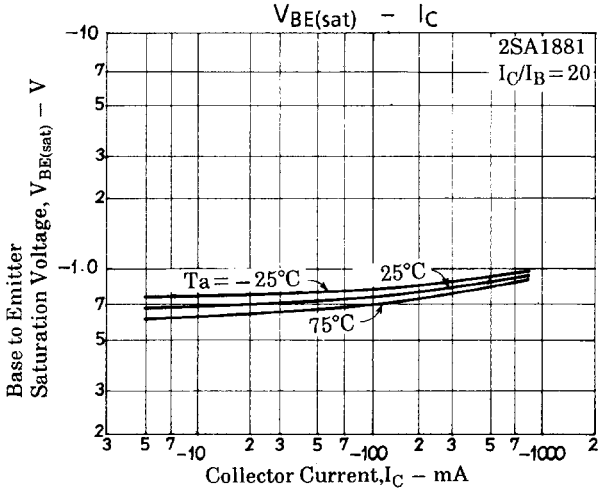


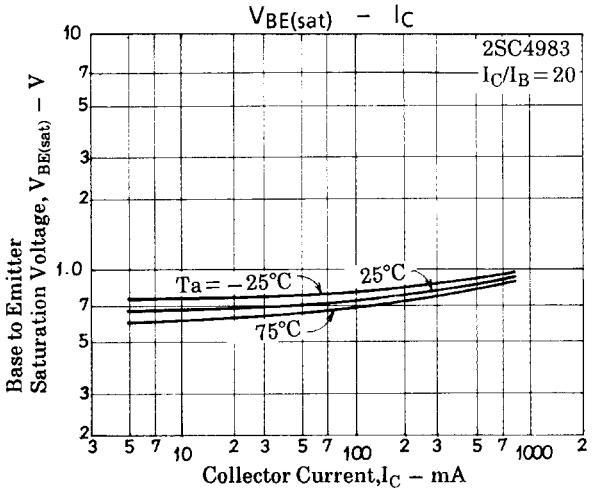

hFE – IC
2SA1881
VCE = –2V
Ta = 75°C
25°C
–25°C
DC Current Gain, hFE
Collector Current, IC – mA

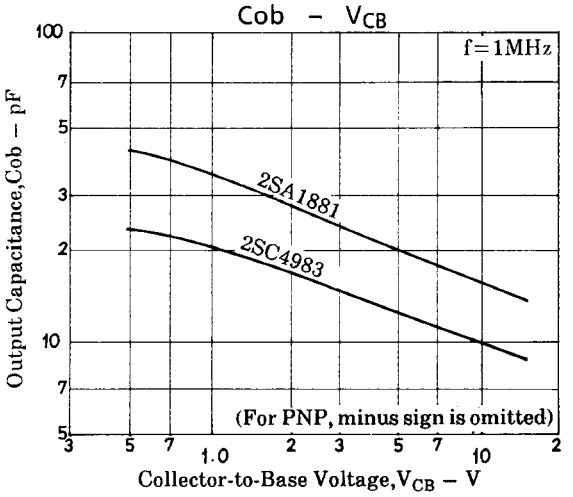

hFE – IC
2SC4983
VCE = 2V
Ta = 75°C
25°C
–25°C
DC Current Gain, hFE
Collector Current, IC – mA

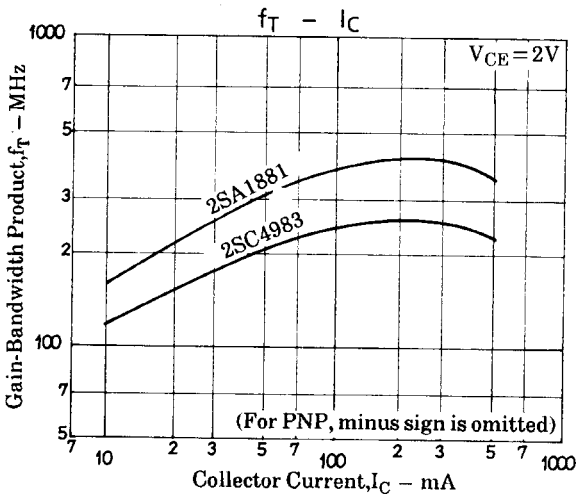

VCE(sat) – IC
2SA1881
IC/IB = 20
Ta = 75°C
25°C
–25°C
Collector to Emitter Saturation Voltage, VCE(sat) – mV
Collector Current, IC – mA


VCE(sat) – IC
2SC4983
IC/IB = 20
Ta = 75°C
25°C
–25°C
Collector to Emitter Saturation Voltage, VCE(sat) – mV
Collector Current, IC – mA


VBE(sat) – IC
2SA1881
IC/IB = 20
Ta = –25°C
25°C
75°C
Base to Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – mA


VBE(sat) – IC
2SC4983
IC/IB = 20
Ta = –25°C
25°C
75°C
Base to Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – mA


Cob – VCB
f = 1MHz
2SA1881
2SC4983
(For PNP, minus sign is omitted)
Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V


fT – IC
VCE = 2V
2SA1881
2SC4983
(For PNP, minus sign is omitted)
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – mA