No.1244C

2SB985/2SD1347

PNP/ NPN Epitaxial Planar Silicon Transistors

Large-Current Driving Applications

Applications

. Power Supplies, relay drivers, lamp drivers, electrical equipment

Features

. Adoption of FBET, MBIT processes
. Low saturation voltage
. Large current capacity and wide ASO

( ) : 2SB985

Absolute Maximum Ratings at T_a=25°C

			unit
Collector to Base Voltage	V_{CBO}	(-)60	V
Collector to Emitter Voltage	V_{CEO}	(-)50	V
Emitter to Base Voltage	V_{EBO}	(-)6	V
Collector Current	I_C	(-)3	A
Collector Current(Pulse)	I_{CP}	(-)6	A
Collector Dissipation	P_C	1	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

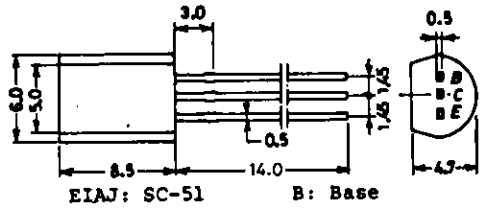
Electrical Characteristics at T_a=25°C

			min	typ	max	unit
Collector Cutoff Current	V_{CBO}	V_{CB}=(-)40V, I_E=0			(-)1.0	μA
Emitter Cutoff Current	V_{EBO}	V_{EB}=(-)4V, I_C=0			(-)1.0	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=(-)2V, I_C=(-)100mA	100*		560*	
	$h_{FE(2)}$	V_{CE}=(-)2V, I_C=(-)3A	40			
Gain-Bandwidth Product	f_T	V_{CE}=(-)10V, I_C=(-)50mA		150		MHz
Output Capacitance	cob	V_{CB}=(-)10V, f=1MHz		25 (39)		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(-)2A, I_B=(-)100mA, Pulse		0.19 (-0.35)	0.5 (-0.7)	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(-)2A, I_B=(-)100mA, Pulse		(-)0.94	(-)1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(-)10μA, I_E=0	(-)60			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(-)1mA, R_{BE}=∞	(-)50			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(-)10μA, I_C=0	(-)6			V

*The 2SB985/2SD1347 are classified by 100mA h_{FE} as follows :

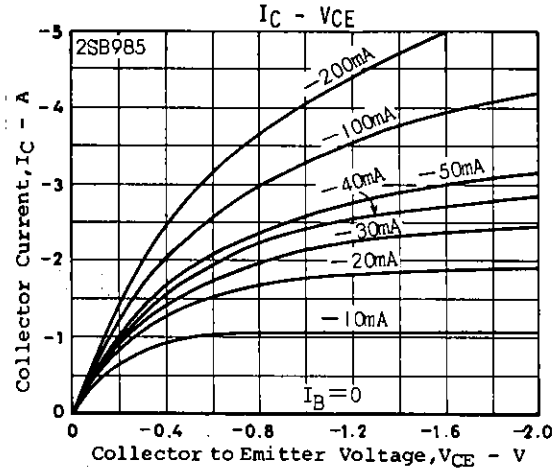
100 R 200	140 S 280	200 T 400	280 U 560

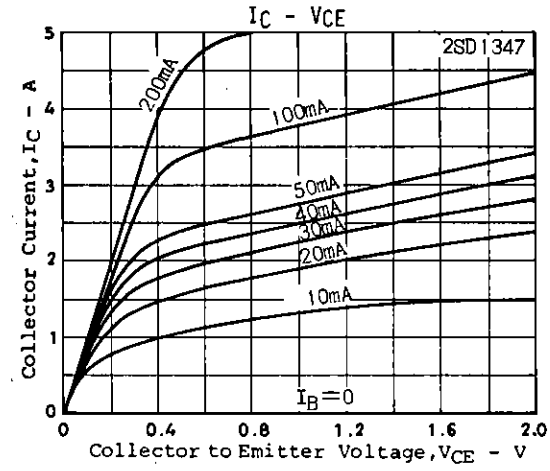
(unit: mm)

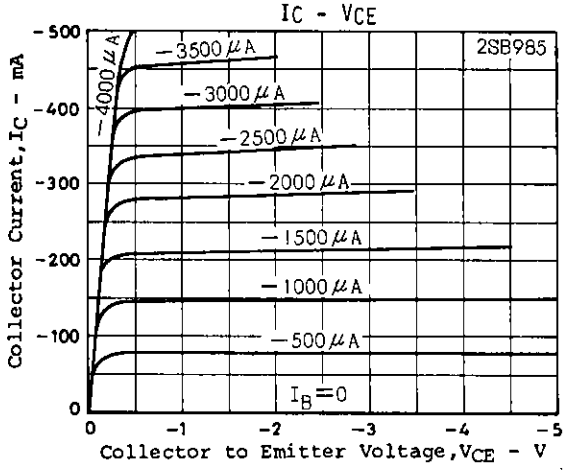


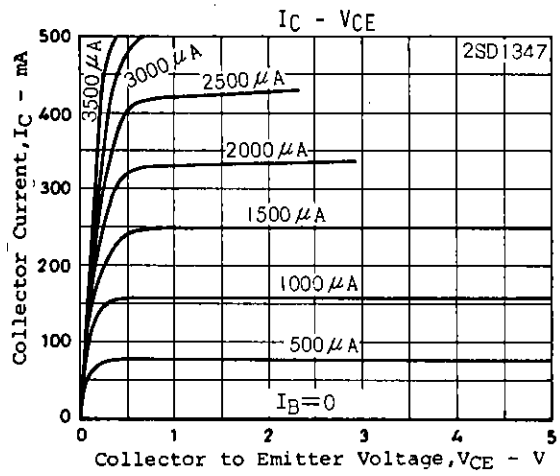
EIAJ: SC-51

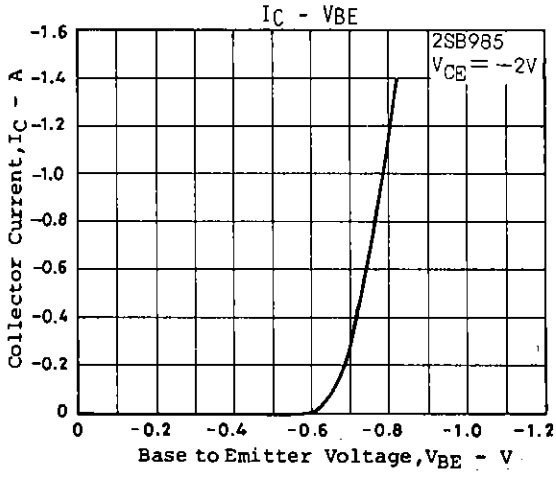
B: Base
C: Collector
E: Emitter

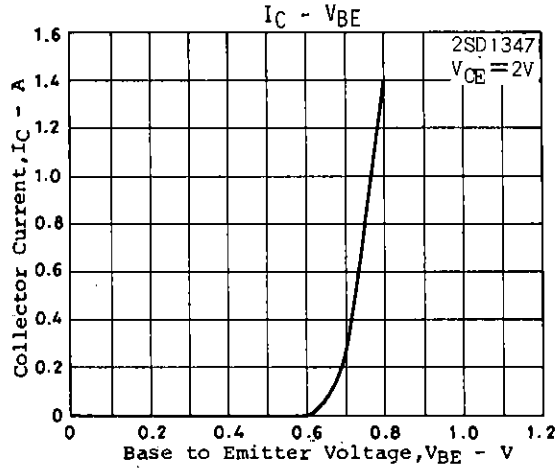

IC - VCE
2SB985
−200mA
−100mA
−40mA
−50mA
−30mA
−20mA
−10mA
IB=0
Collector Current, IC - A
Collector to Emitter Voltage, VCE - V

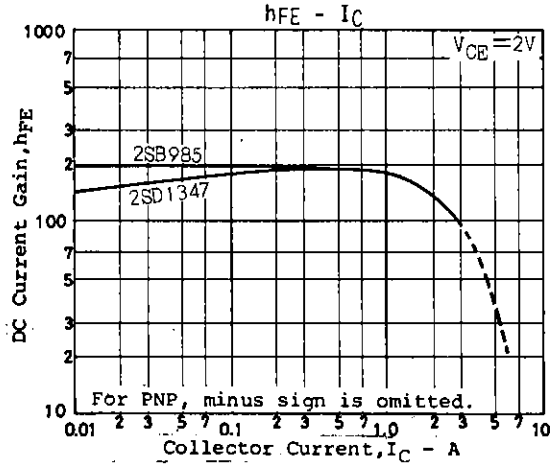

IC - VCE
2SD1347
200mA
100mA
50mA
40mA
30mA
20mA
10mA
IB=0
Collector Current, IC - A
Collector to Emitter Voltage, VCE - V

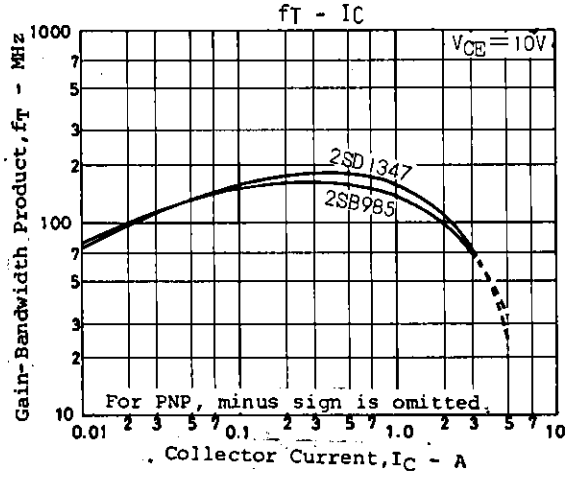

IC - VCE
2SB985
−4000μA
−3500μA
−3000μA
−2500μA
−2000μA
−1500μA
−1000μA
−500μA
IB=0
Collector Current, IC - mA
Collector to Emitter Voltage, VCE - V


IC - VCE
2SD1347
3500μA
3000μA
2500μA
2000μA
1500μA
1000μA
500μA
IB=0
Collector Current, IC - mA
Collector to Emitter Voltage, VCE - V


IC - VBE
2SB985
VCE=−2V
Collector Current, IC - A
Base to Emitter Voltage, VBE - V


IC - VBE
2SD1347
VCE=2V
Collector Current, IC - A
Base to Emitter Voltage, VBE - V


hFE - IC
VCE=2V
2SB985
2SD1347
For PNP, minus sign is omitted.
DC Current Gain, hFE
Collector Current, IC - A


fT - IC
VCE=10V
2SD1347
2SB985
For PNP, minus sign is omitted.
Gain-Bandwidth Product, fT - MHz
Collector Current, IC - A