



## 2SB985/2SD1347

### 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

#### Specifications

##### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-)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 Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=(-)40V, I_E=0$			(-)1.0	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)4V, I_C=0$			(-)1.0	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE}=(-)2V, I_C=(-)100mA$	100*		560*	
	$h_{FE2}$	$V_{CE}=(-)2V, I_C=(-)3A$	40			
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10V, I_C=(-)50mA$		150		MHz
Common Base Output Capacitance	$C_{ob}$	$V_{CB}=(-)10V, f=1MHz$		25(39)		pF

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

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Rank	R	S	T	U
$h_{FE}$	100 to 200	140 to 280	200 to 400	280 to 560

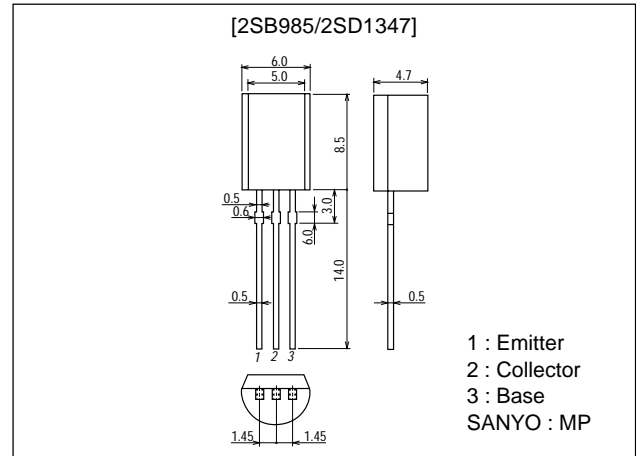
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#### Package Dimensions

unit:mm

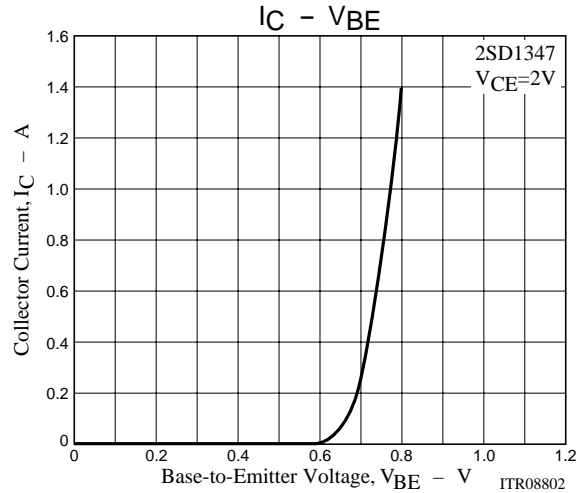
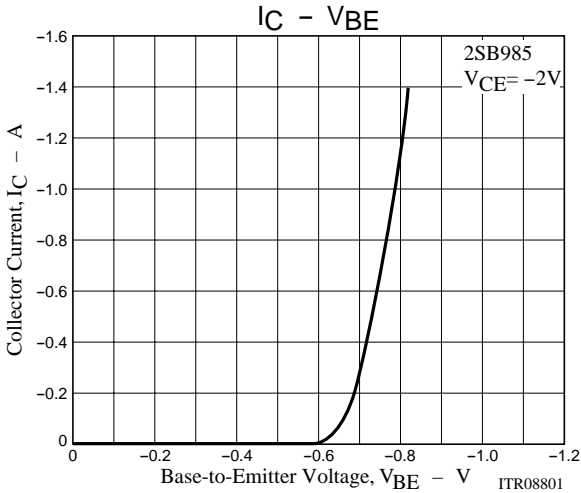
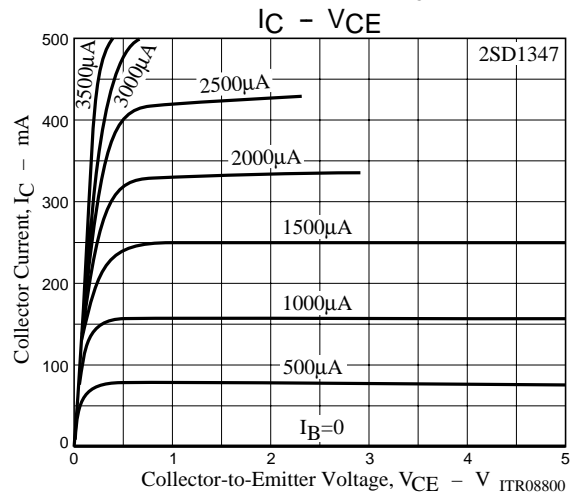
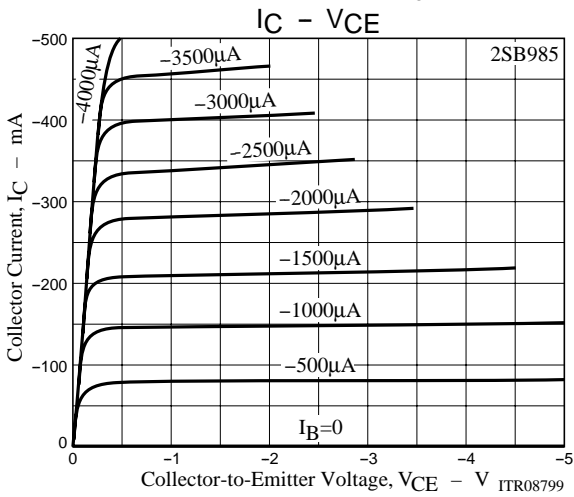
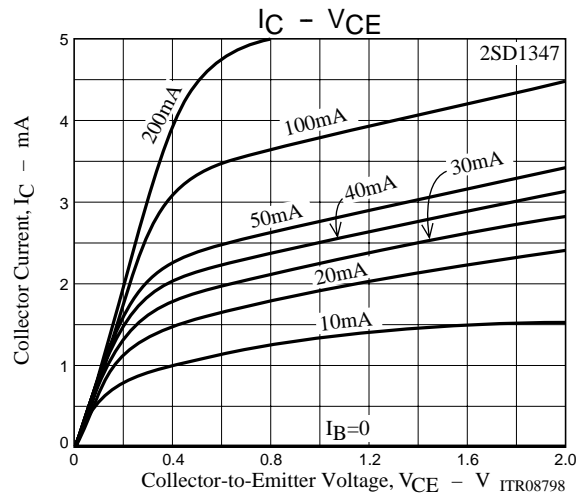
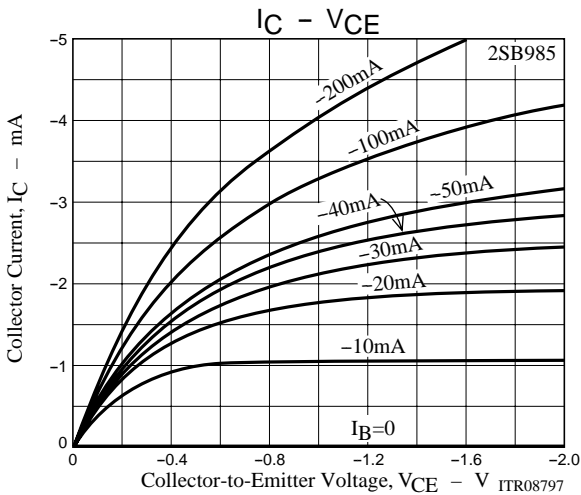
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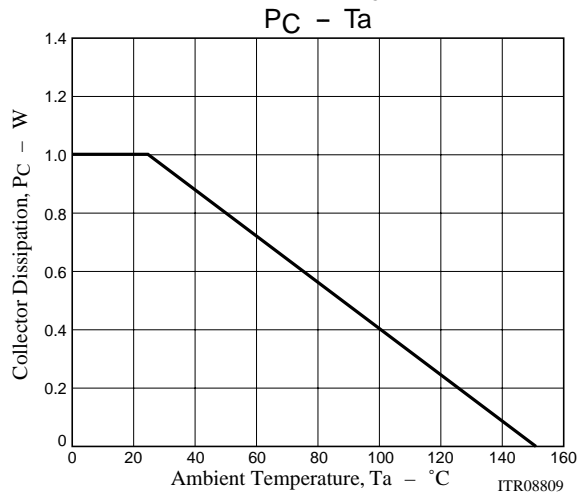
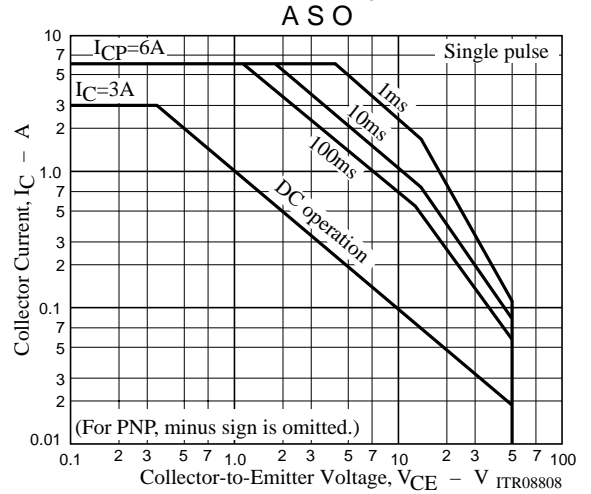
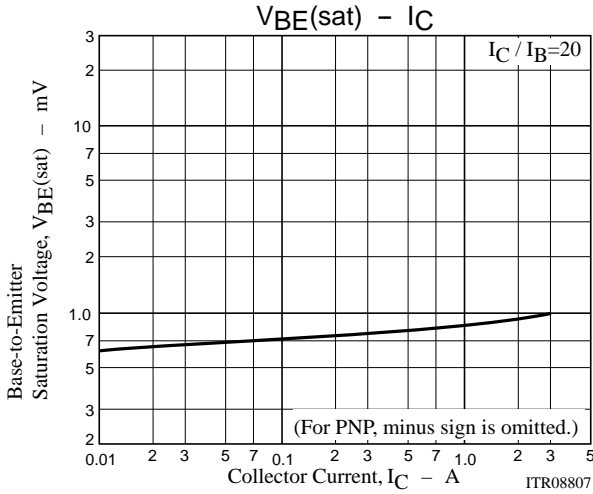
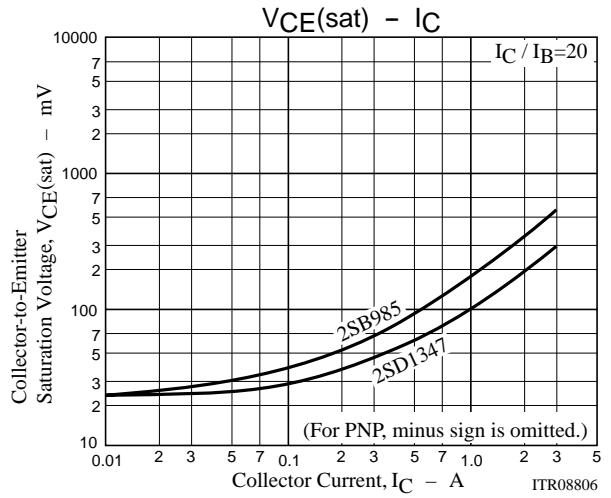
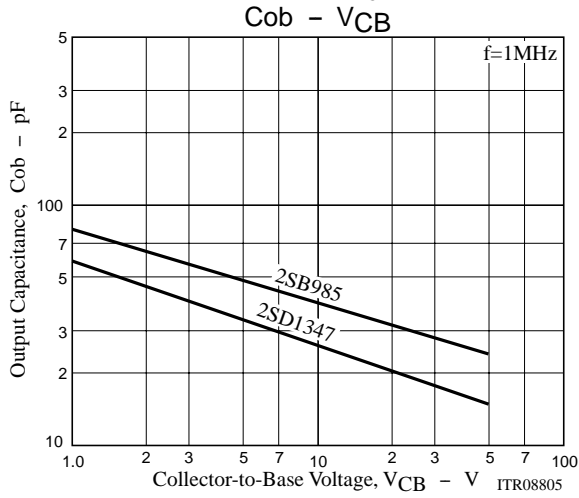
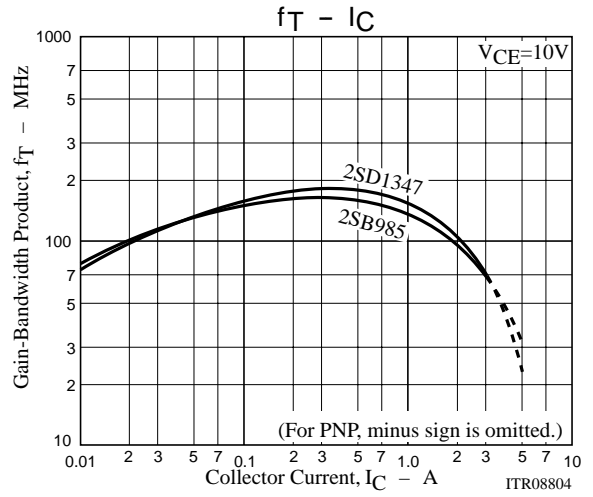
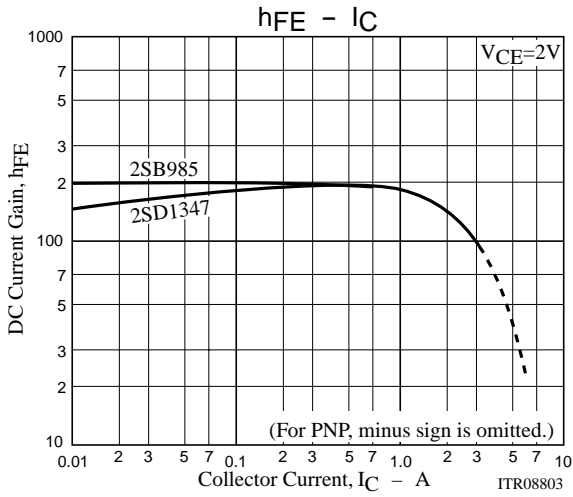
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		0.19	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		(-0.35)	(-0.7)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-60)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-50)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-6)			V



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