



SANYO Semiconductors

DATA SHEET

2SB986 / 2SD1348

PNP / NPN Epitaxial Planar Silicon Transistors

50V / 4A Switching Applications

Applications

- Power supplies, relay drivers, lamp drivers, electrical equipment.

Features

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

Specifications () : 2SB986

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

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_{EB0}		(-)6	V
Collector Current	I_C		(-)4	A
Collector Current (Pulse)	I_{CP}		(-)6	A
Collector Dissipation	P_C		1.2	W
		$T_c=25^\circ\text{C}$	10	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-40\text{V}, I_E=0\text{A}$			(-)1.0	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0\text{A}$			(-)1.0	mA

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2SB986 / 2SD1348

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	hFE1	$V_{CE}=(-)2V, I_C=(-)100mA$	100*		560*	
	hFE2	$V_{CE}=(-)2V, I_C=(-)3A$	40			
Gain-Bandwidth Product	fT	$V_{CE}=(-)10V, I_C=(-)50mA$		150		MHz
Output Capacitance	Cob	$V_{CB}=(-)10V$		(39)25		pF
Collector-to-Emitter Saturation Voltage	$V_{CE}(sat)$	$I_C=(-)2A, I_B=(-)100mA, Pulse$		(-0.35)0.19	(-0.7)0.5	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	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0A$	(-60)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-50)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0A$	(-6)			V

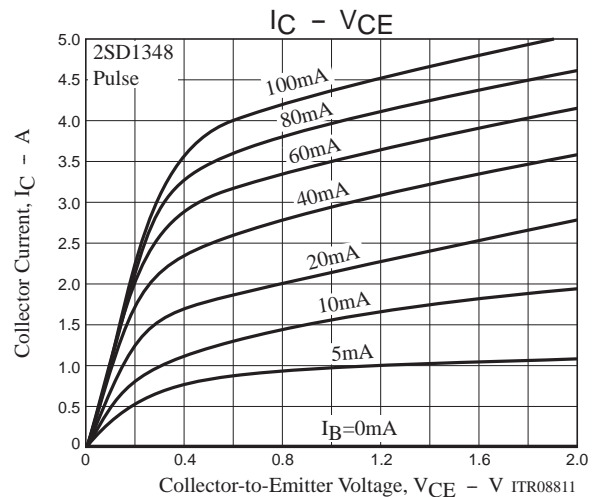
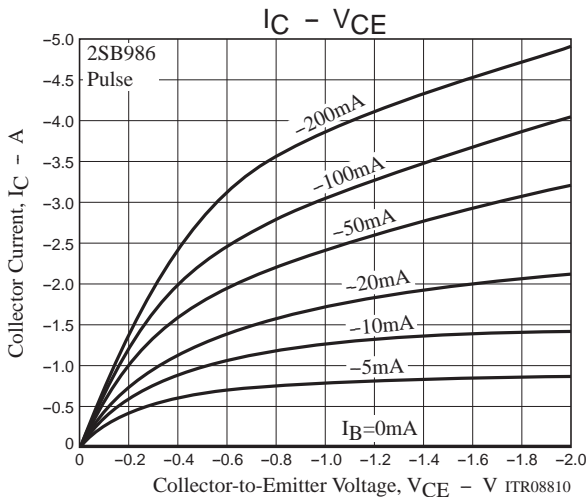
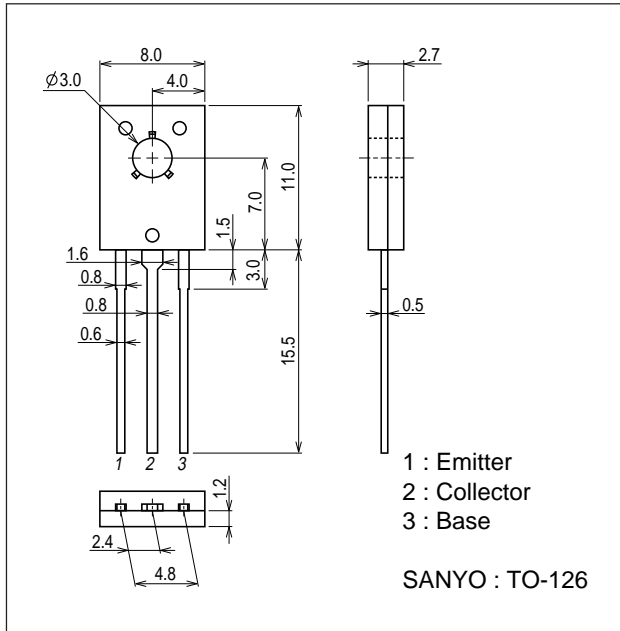
* : The 2SB986 / 2SD1348 are classified by 100mA hFE as follows :

Rank	R	S	T	U
hFE	100 to 200	140 to 280	200 to 400	280 to 560

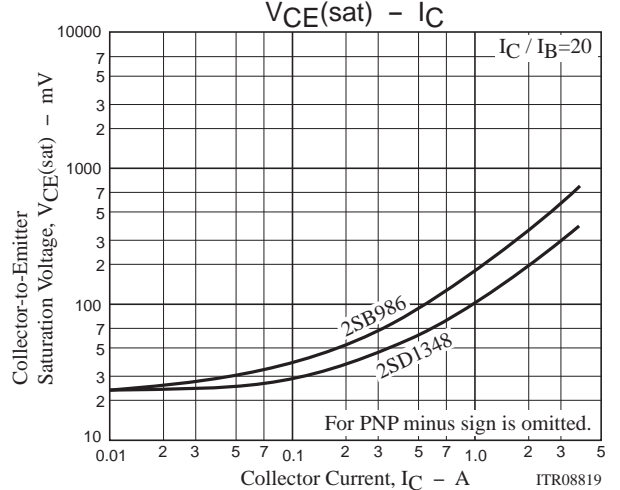
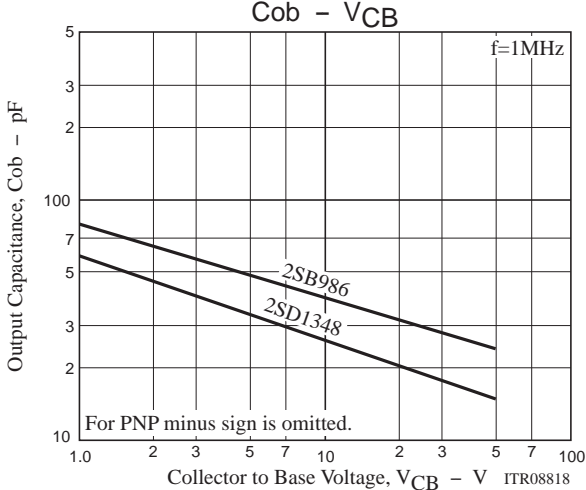
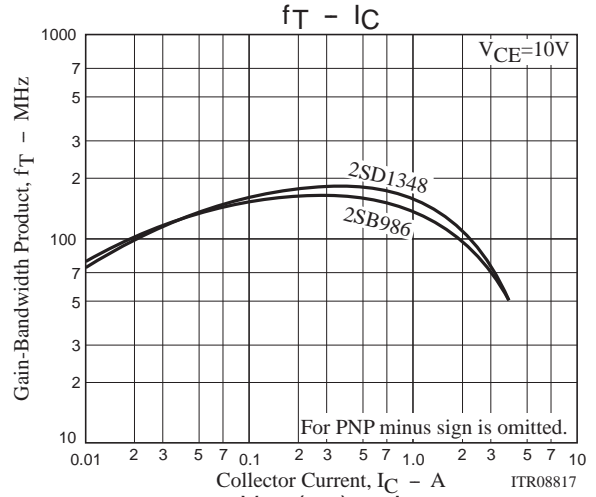
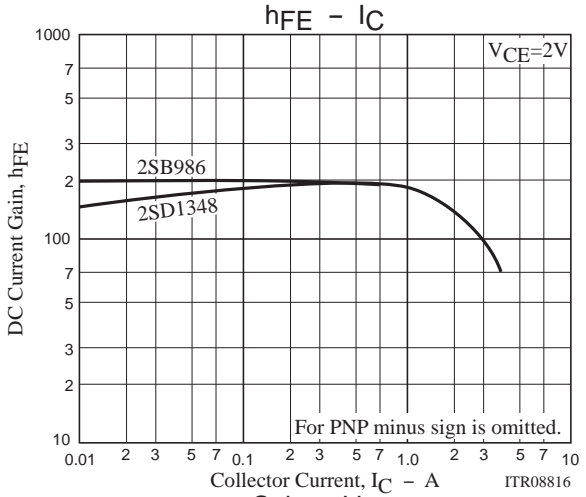
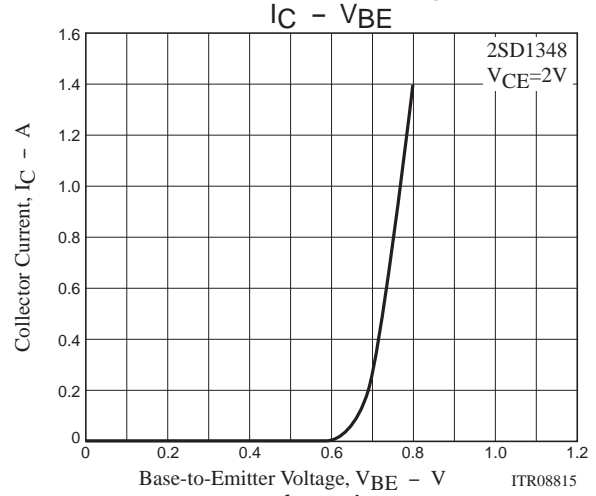
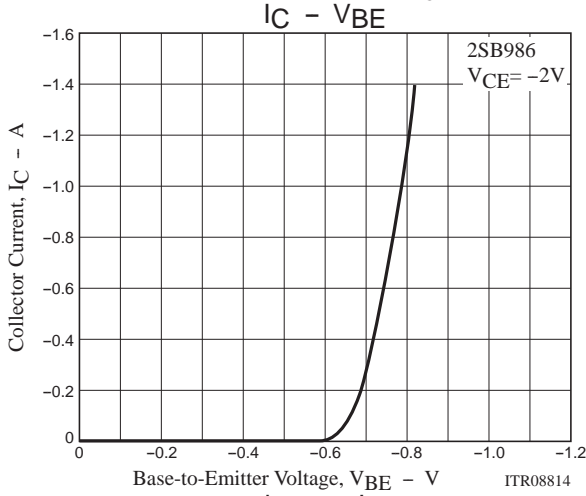
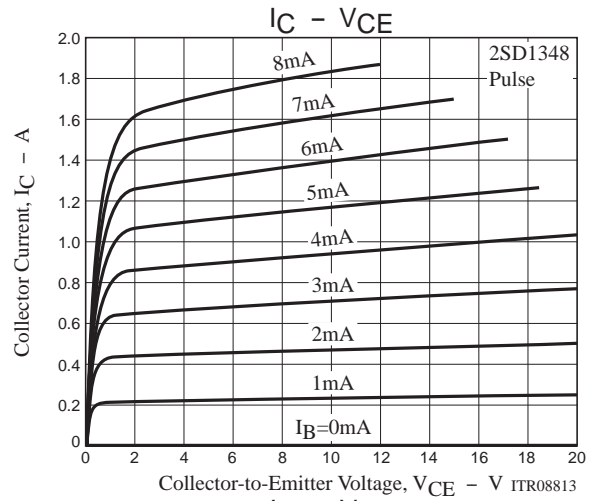
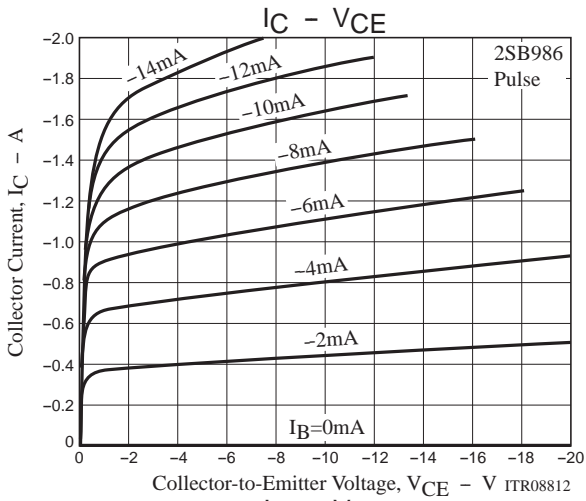
Package Dimensions

unit : mm (typ)

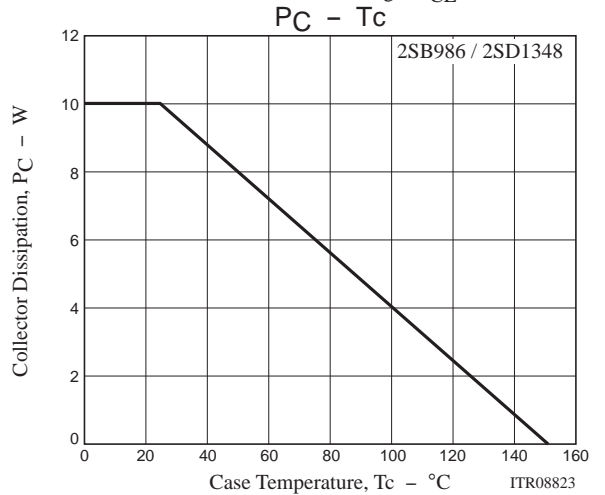
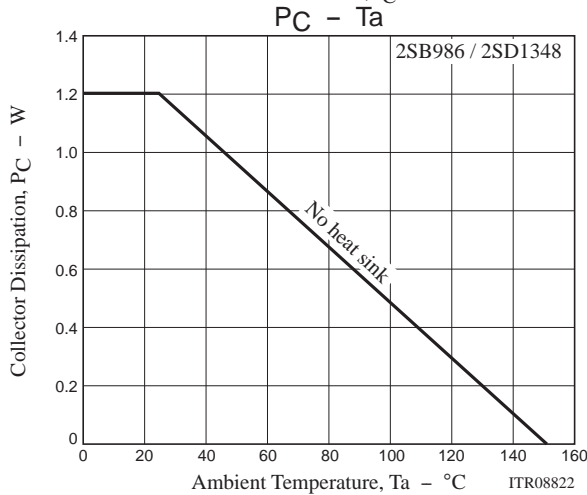
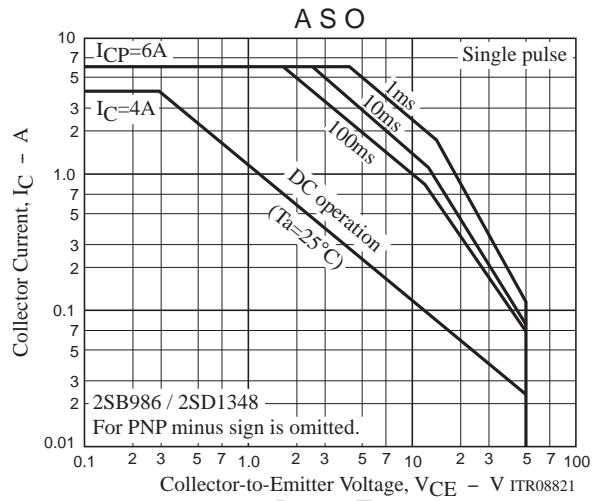
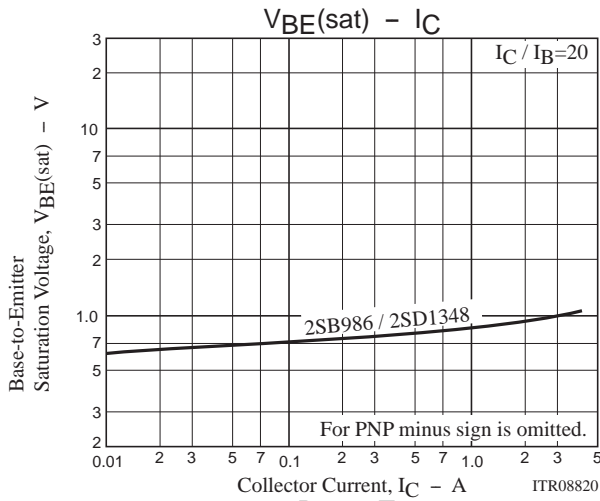
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2SB986 / 2SD1348



2SB986 / 2SD1348



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