



SANYO Semiconductors

DATA SHEET

2SB986 / 2SD1348 — PNP / NPN Epitaxial Planar Silicon Darlington 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 Ta=25°C

Parameter	Symbol	Conditions	Ratings	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		(-)4	A
Collector Current (Pulse)	I _{CP}		(-)6	A
Collector Dissipation	P _C		1.2	W
		T _C =25°C	10	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 =0A			(-)1.0	mA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0A			(-)1.0	mA
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
Output Capacitance	C _{ob}	V _{CB} =(-)10V		(39)25		pF

Continued on next page.

* : The 2SB986 / 2SD1348 are classified by 100mA h_{FE} as follows :

Rank	R	S	T	U
h _{FE}	100 to 200	140 to 280	200 to 400	280 to 560

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2SB986 / 2SD1348

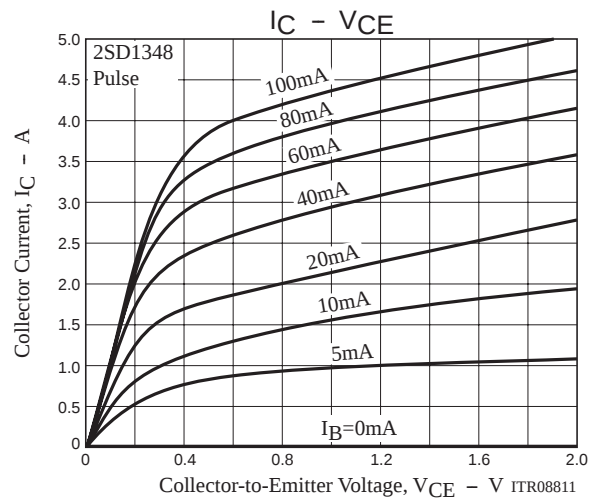
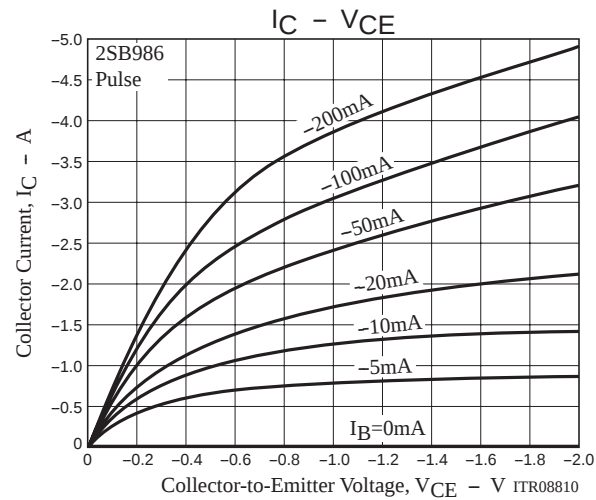
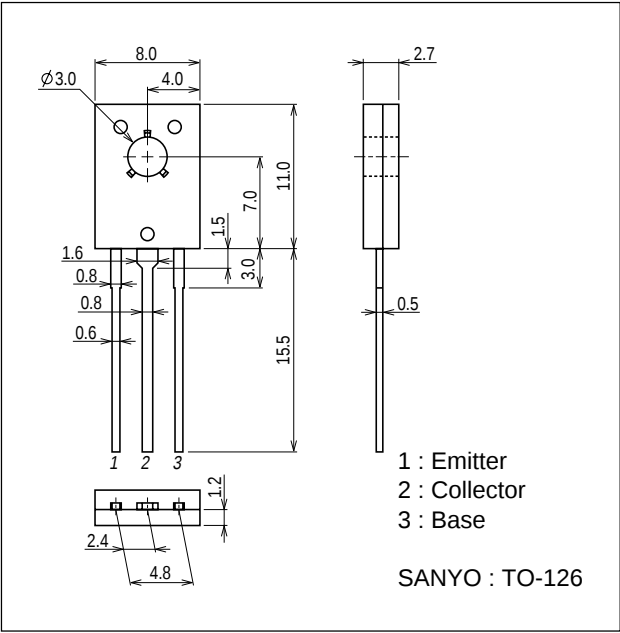
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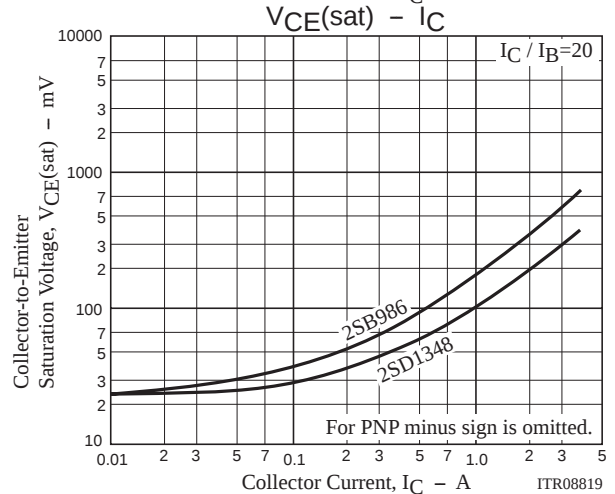
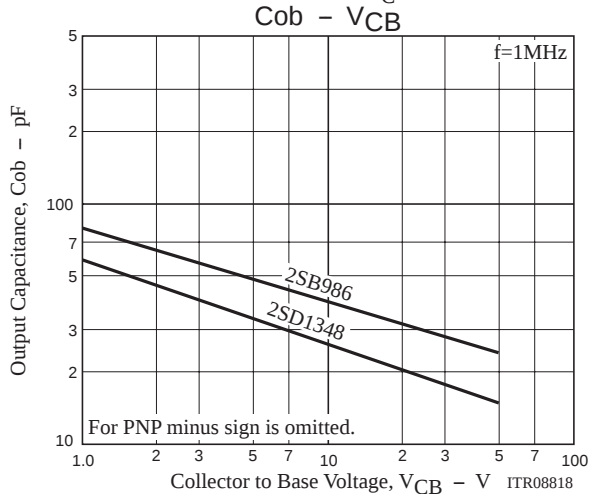
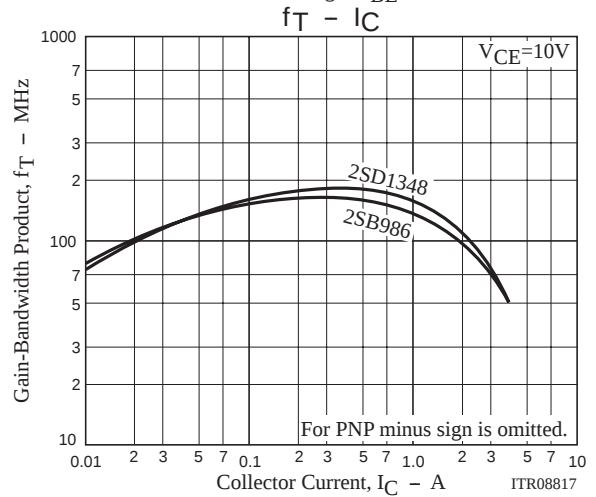
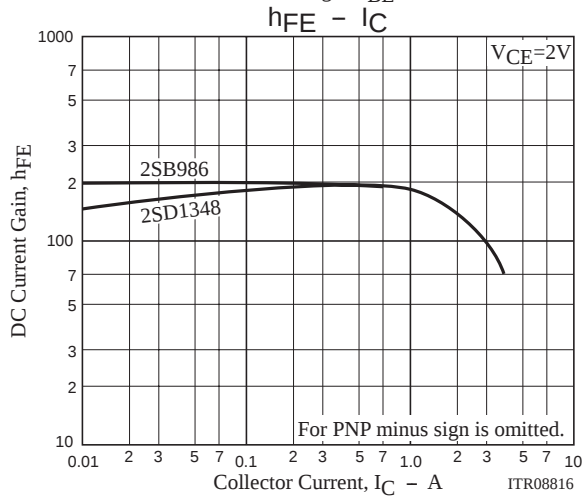
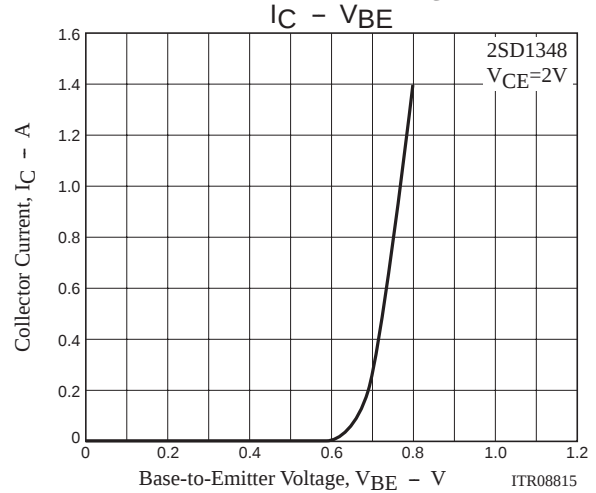
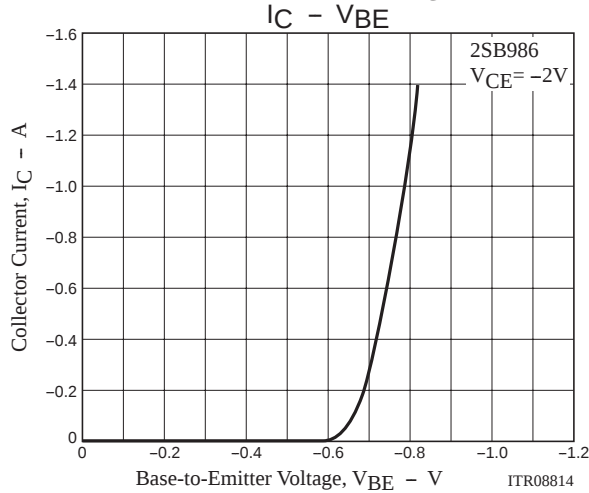
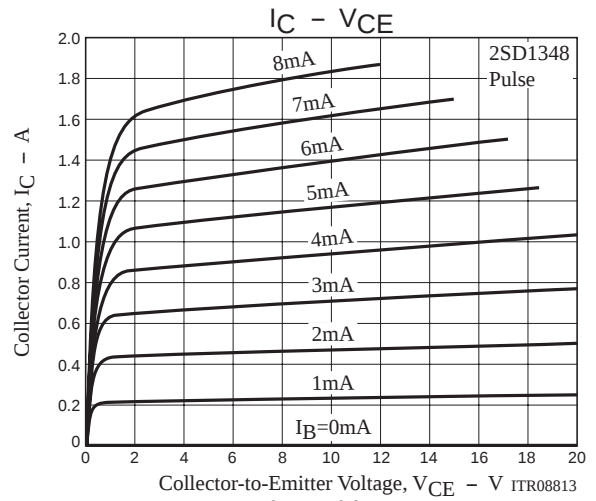
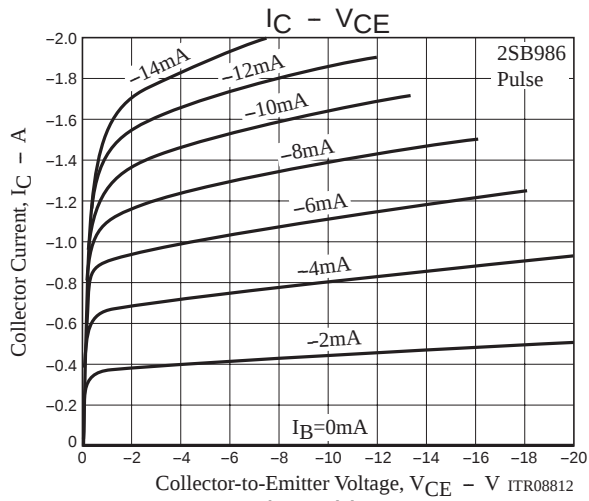
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$, Pulse		$(-0.35)0.19$	$(-0.7)0.5$	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$, Pulse		$(-)0.94$	$(-)1.2$	V
Collector-to-Base Breakdown 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

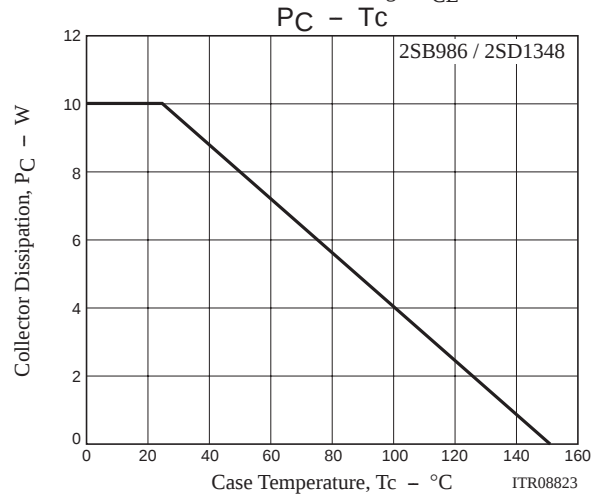
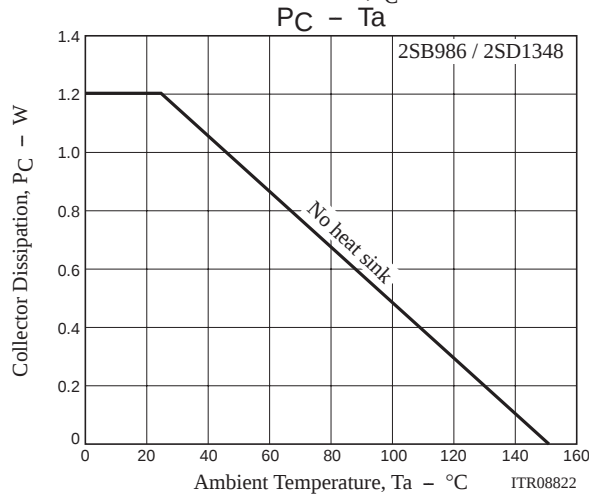
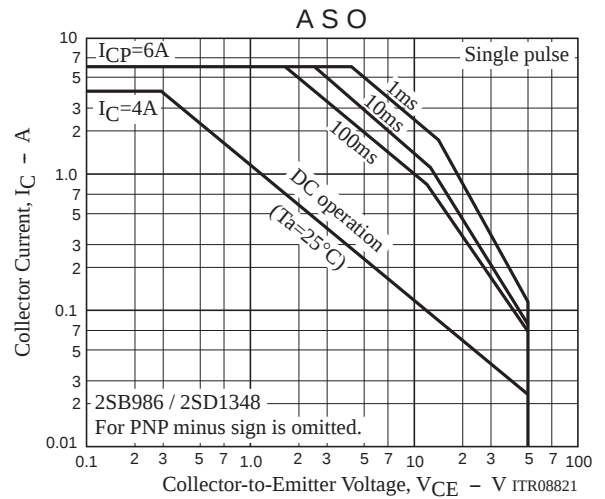
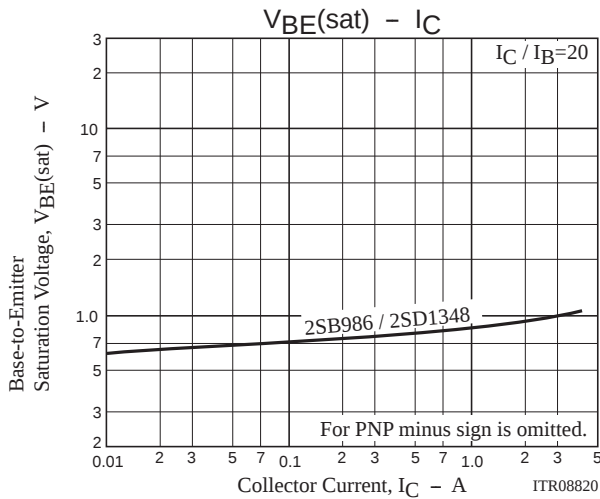
Package Dimensions

unit : mm (typ)

7515-002







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