



2SB986/2SD1348

50V/4A Switching Applications

Applications

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

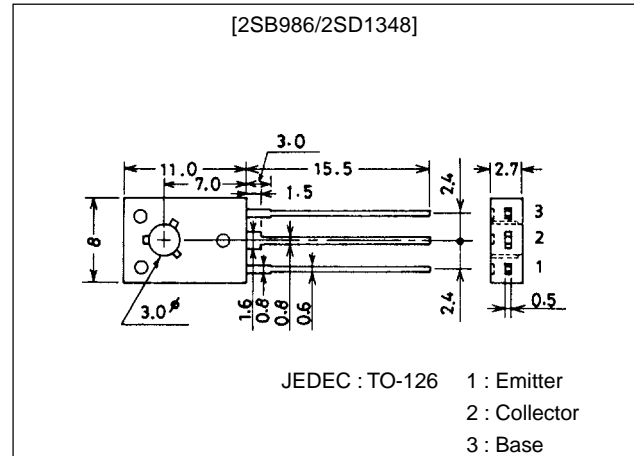
Features

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

Package Dimensions

unit:mm

2009B



() : 2SB986

Specifications

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_{EBO}		(-)-6	V
Collector Current	I_C		(-)-4	A
Collector Current (Pulse)	I_{CP}		(-)-6	A
Collector Dissipation	P_C		1.2	W
		$T_c=25^\circ\text{C}$	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}	$V_{CB}=(-)40\text{V}, I_E=0$			(-)-1.0	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4\text{V}, I_C=0$			(-)-1.0	mA
DC Current Gain	h_{FE1}	$V_{CE}=(-)2\text{V}, I_C=(-)100\text{mA}$	100*		560*	
	h_{FE2}	$V_{CE}=(-)2\text{V}, I_C=(-)3\text{A}$	40			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10\text{V}, I_C=(-)50\text{mA}$		150		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10\text{V}$		25(39)		pF

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

100	R	200	140	S	280	200	T	400	280	U	560
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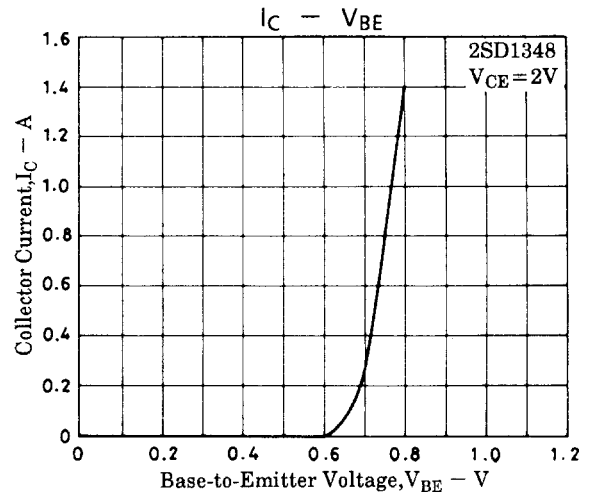
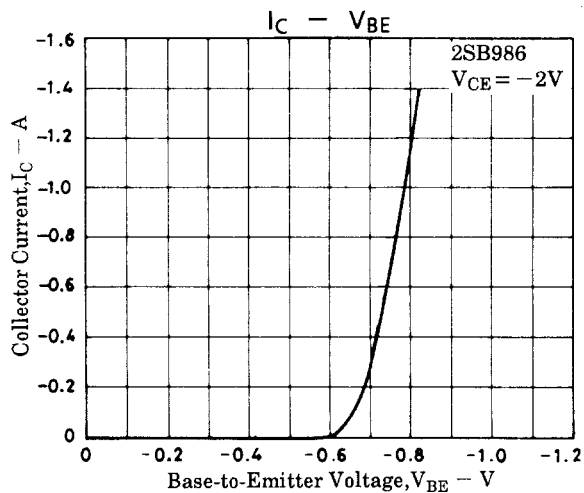
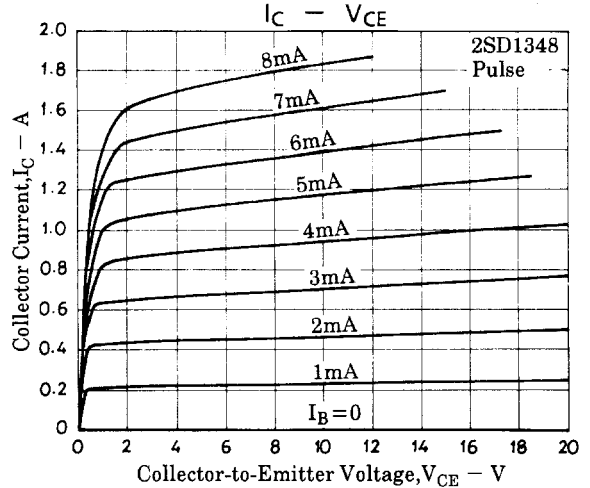
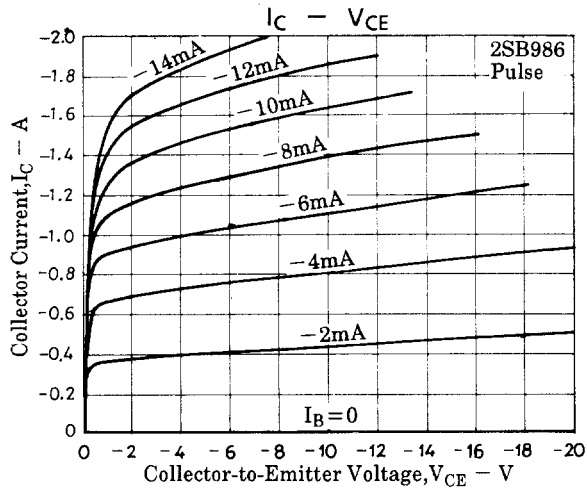
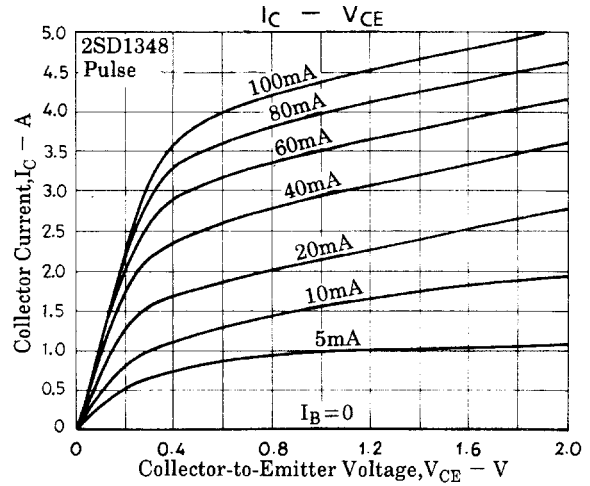
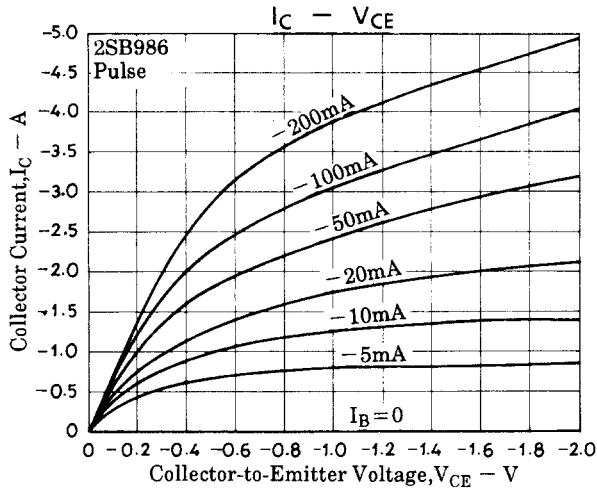
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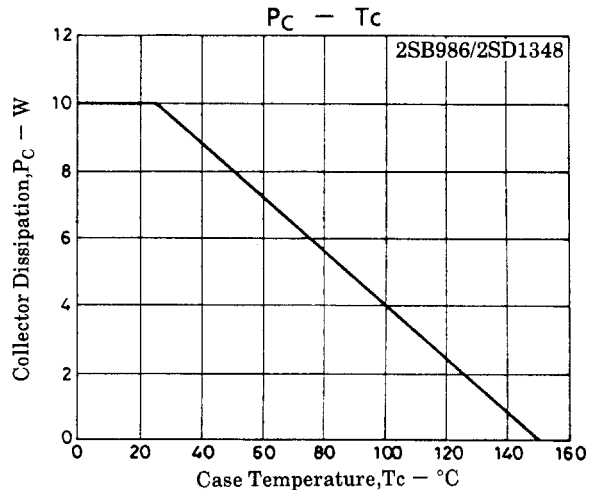
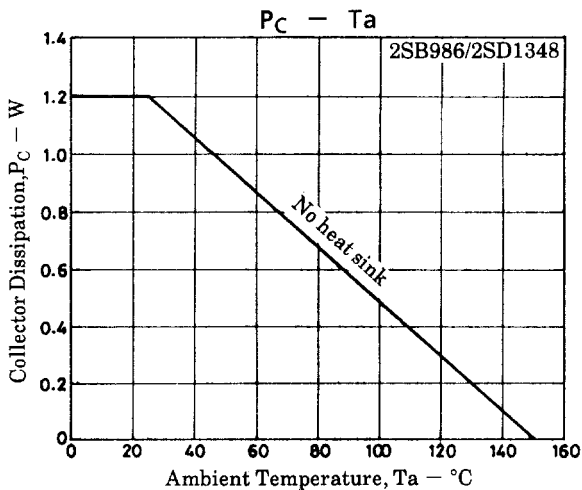
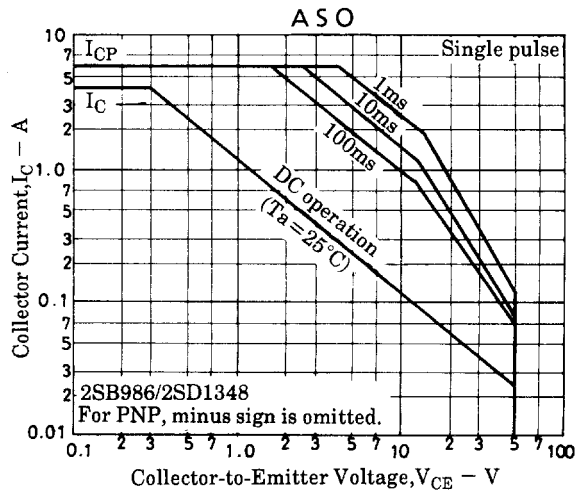
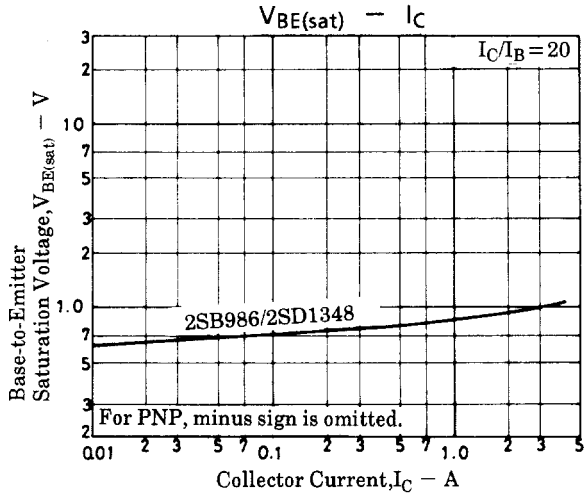
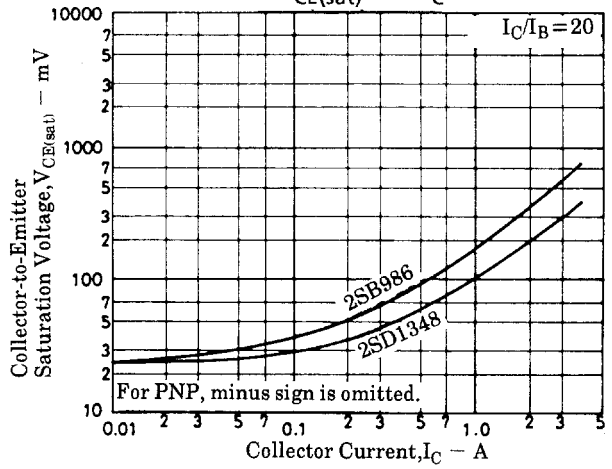
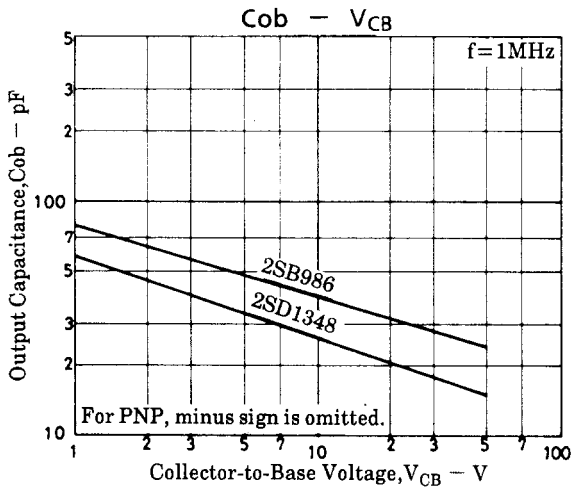
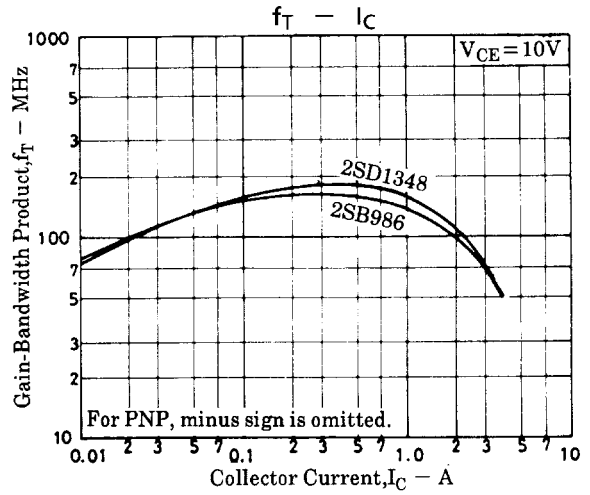
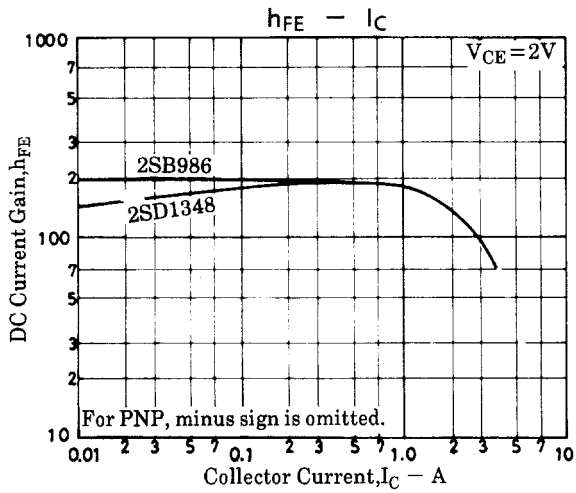
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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