

2SA1855/2SC4837**50V/4A Switching Applications****Applications**

- Power supplies, relay drivers, lamp drivers.

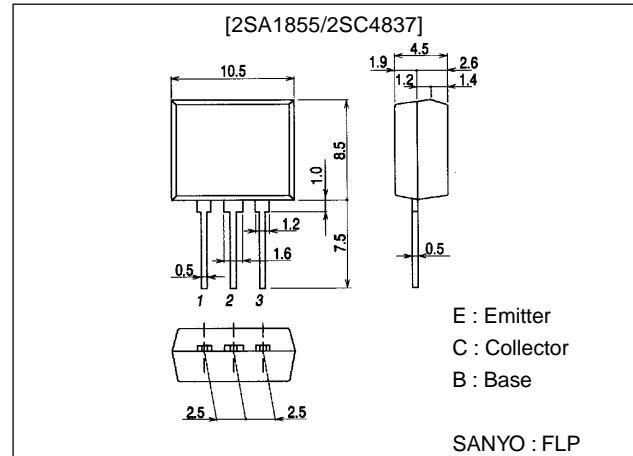
Features

- Adoption of FBET and MBIT processes.
- Large allowable collector dissipation.
- Low saturation voltage.
- Wide ASO and large current capacity.
- Usage of radial taping to meet automatic mounting.

Package Dimensions

unit:mm

2084B



() : 2SA1855

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_{CE0}		(-)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		1.5	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_{CB0}	$V_{CB}=(-)40V, I_E=0$			(-)1	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=(-)4V, I_C=0$			(-)1	μA
DC Current Gain	h_{FE1}	$V_{CE}=(-)2V, I_C=(-)10mA$	100*		400*	
	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}	$V_{CB}=(-)10V, f=1MHz$		(39)25		pF

* : The 2SA1855/2SC4837 are classified by 100mA h_{FE} as follows :

100 R 200	140 S 280	200 T 400
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SANYO Electric Co., Ltd. Semiconductor Business Headquarters

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

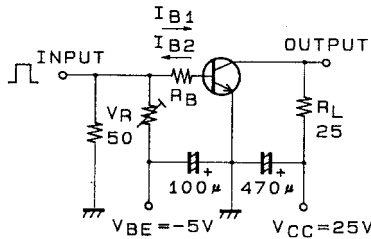
91098HA (KT)/5132MH (KOTO) No.4135-1/4

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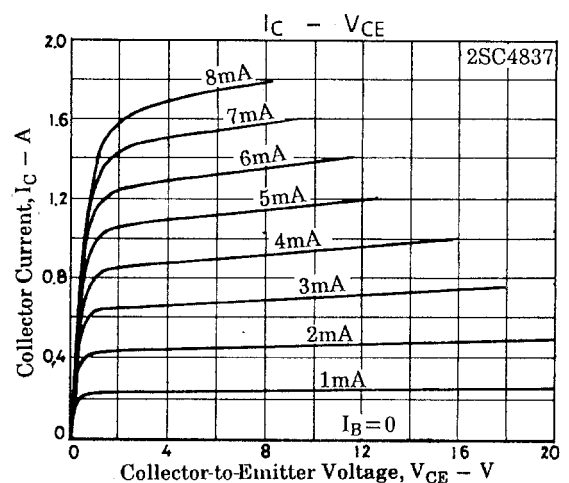
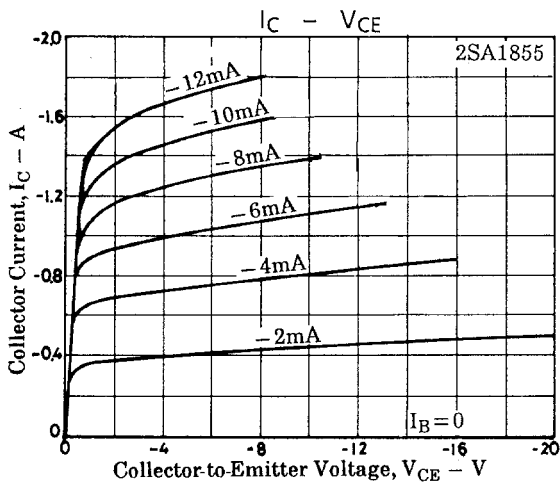
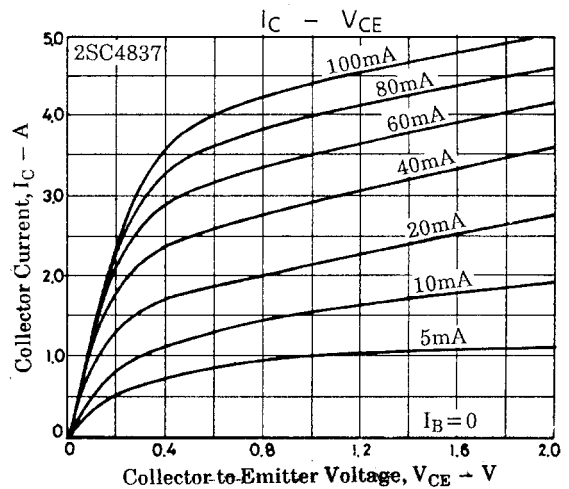
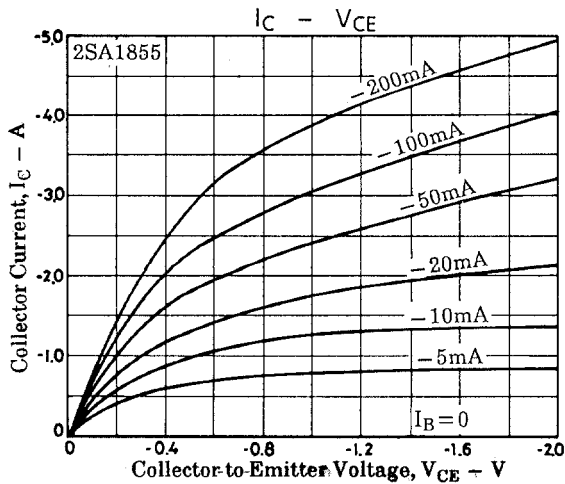
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		(-350)	(-700)	mV
				190	500	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		(-)0.94	(-)1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	(-)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
Turn-ON Time	t_{on}	See specified Test Circuit		70		ns
Storage Time	t_{stg}	See specified Test Circuit		(450)		ns
				650		ns
Fall Time	t_f	See specified Test Circuit		(30)35		ns

Switching Time Test Circuit

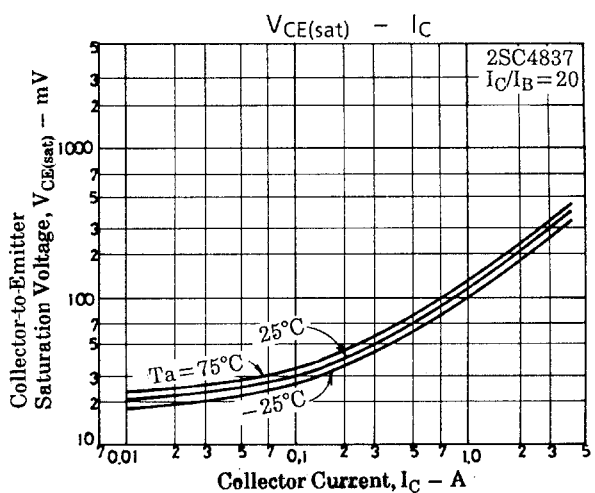
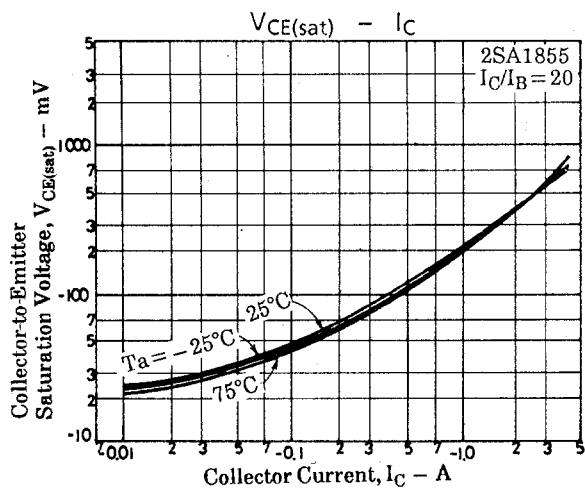
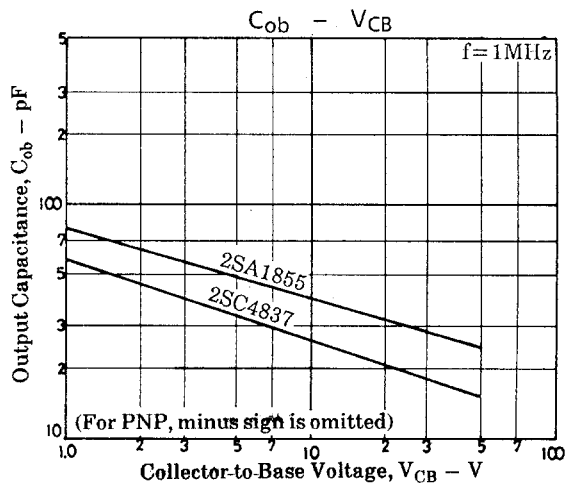
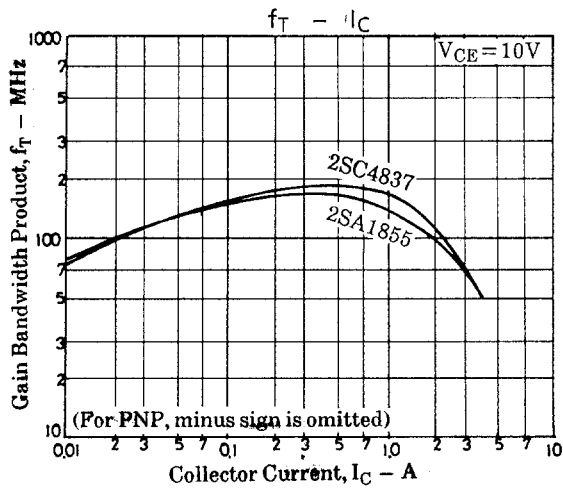
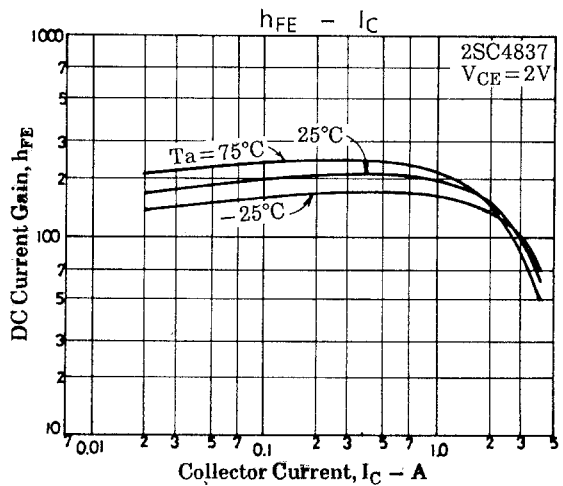
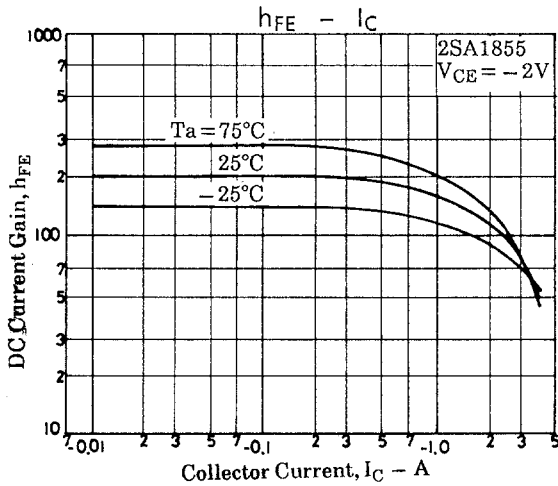
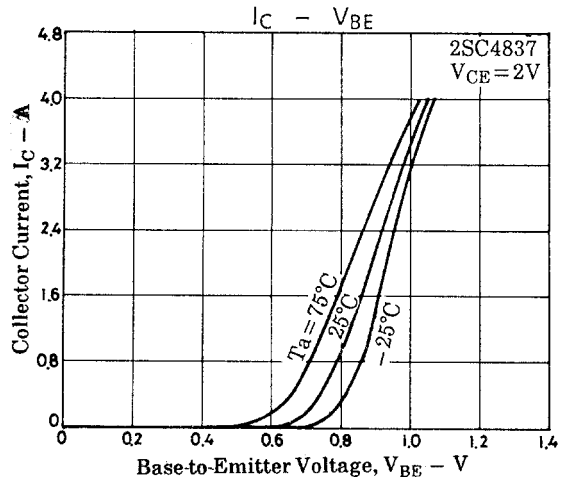
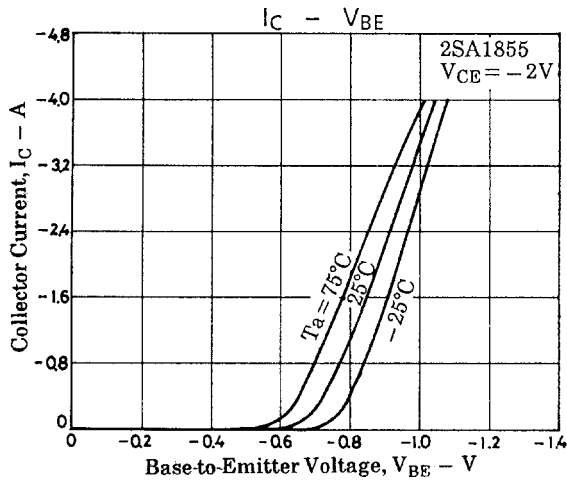
PW = 20 μ s
DC \leq 1%



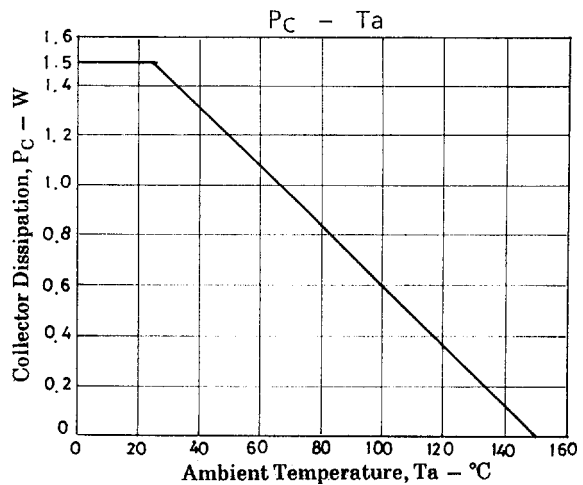
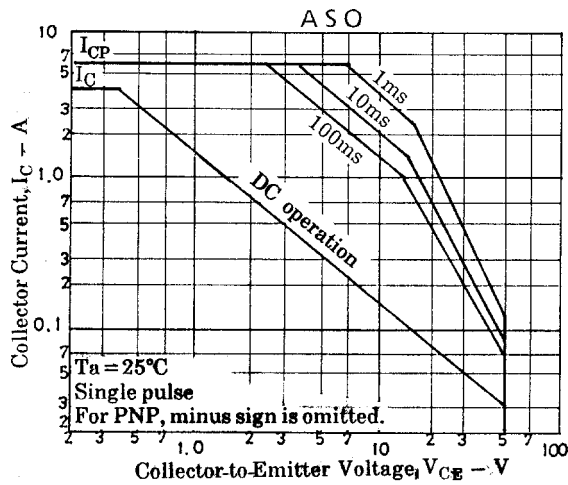
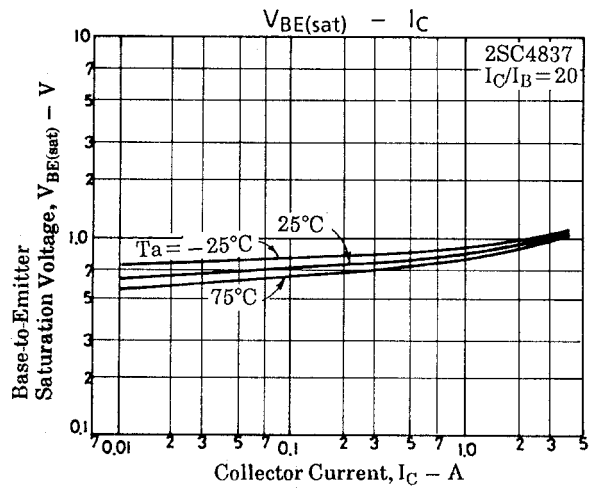
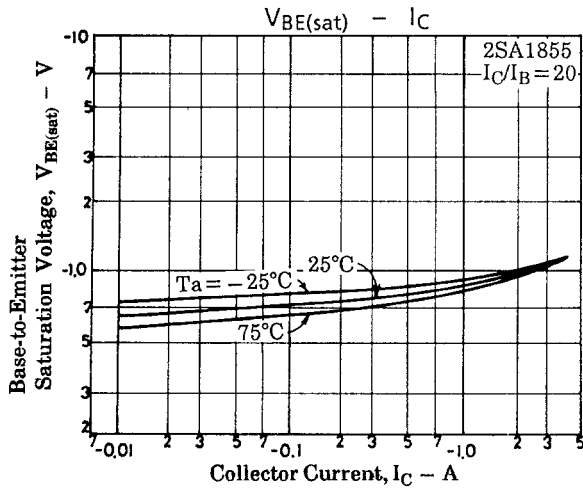
$I_C = 10I_{B1} = -10I_{B2} = 1A$ A00651
Unit (resistance : Ω , capacitance : F)



2SA1855/2SC4837



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