



2SA1855/2SC4837

50V/4A Switching Applications

An ON Semiconductor Company

Applications

- Power supplies, relay drivers, lamp drivers.

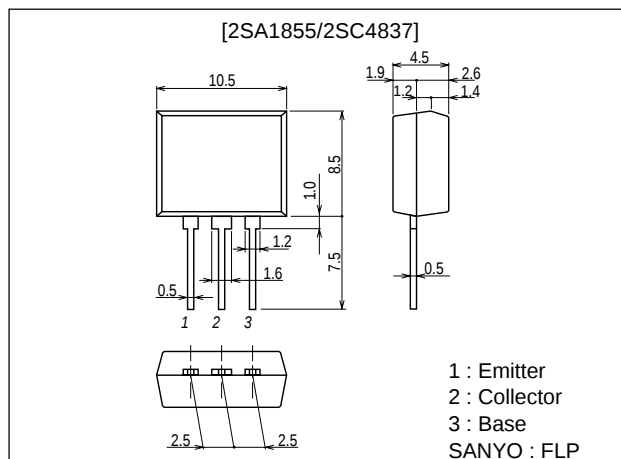
Features

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

Package Dimensions

unit:mm

2084B



() : 2SA1855

Specifications

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

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

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

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

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SANYO Electric Co., Ltd. Semiconductor Company

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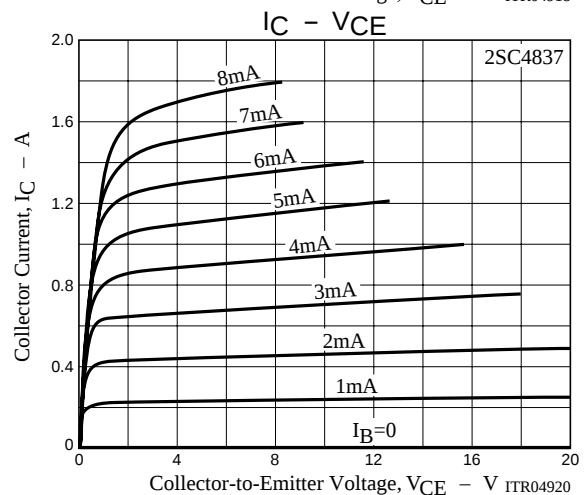
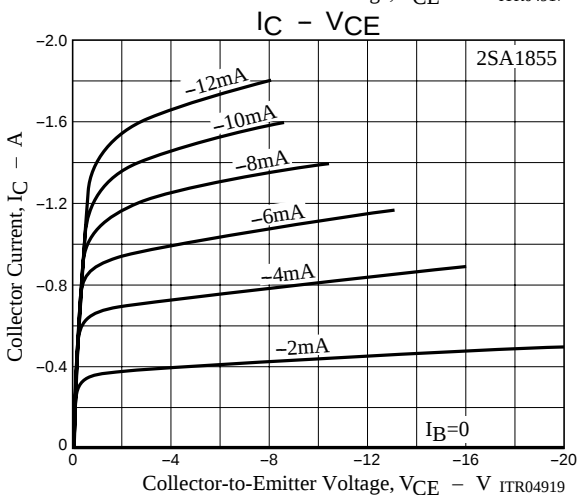
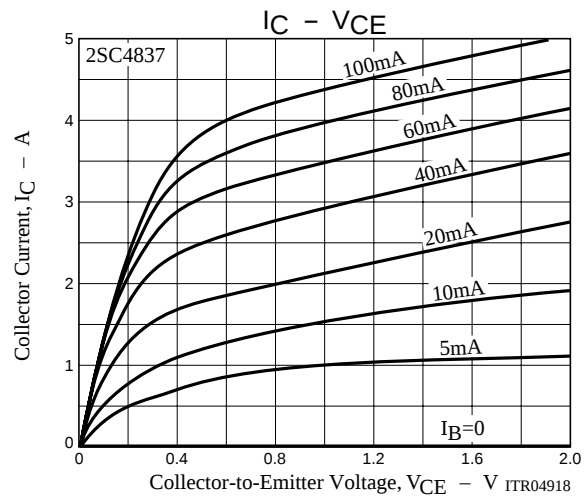
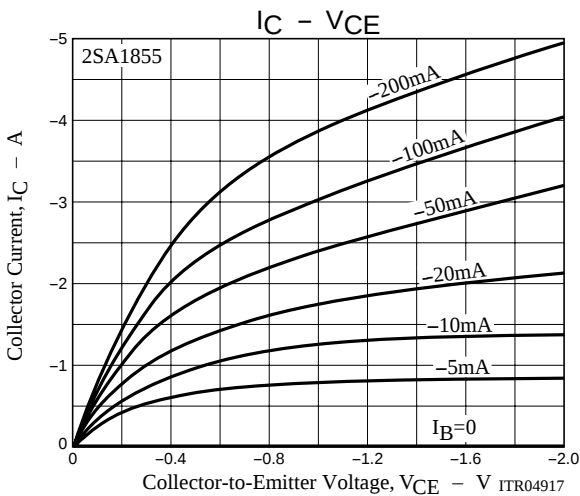
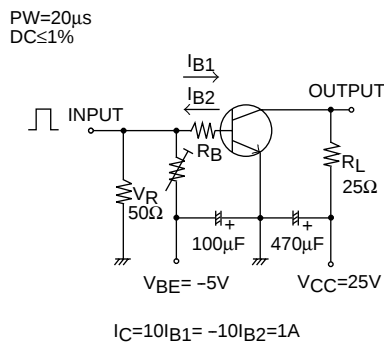
91003TN (KT)/91098HA (KT)/5132MH (KOTO) No.4135-1/4

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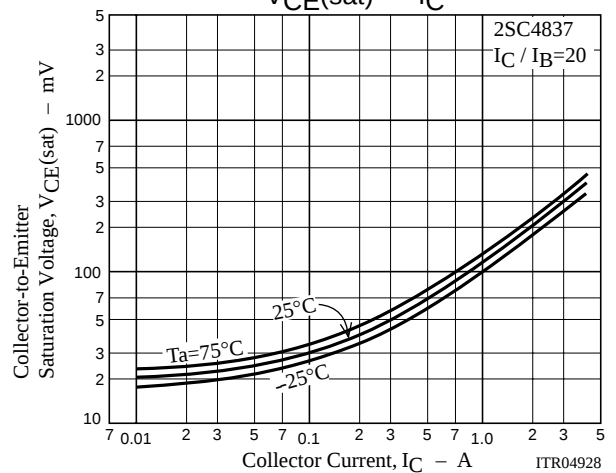
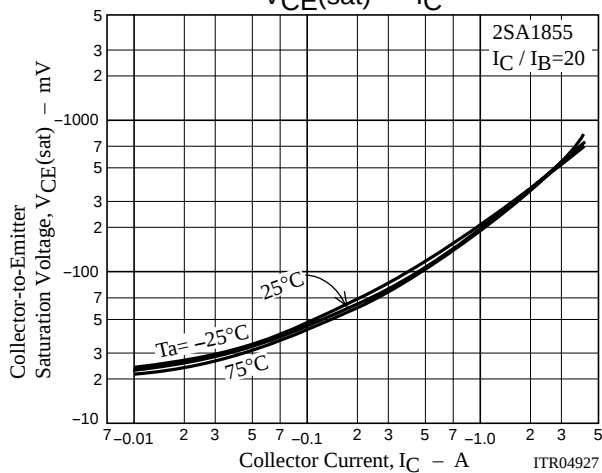
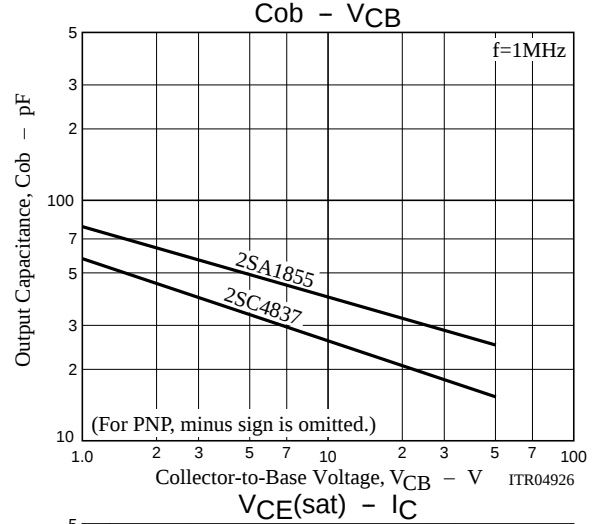
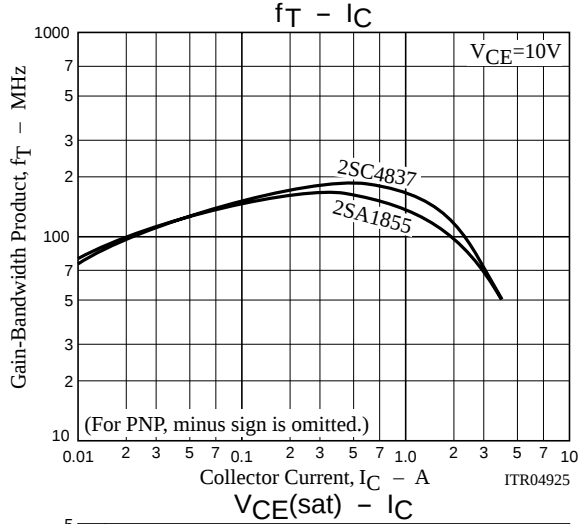
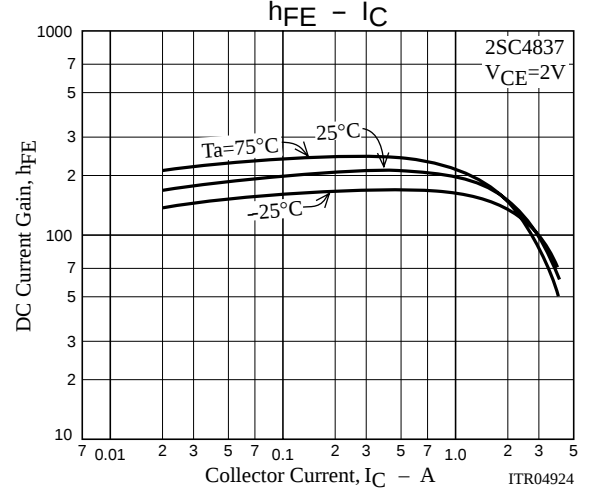
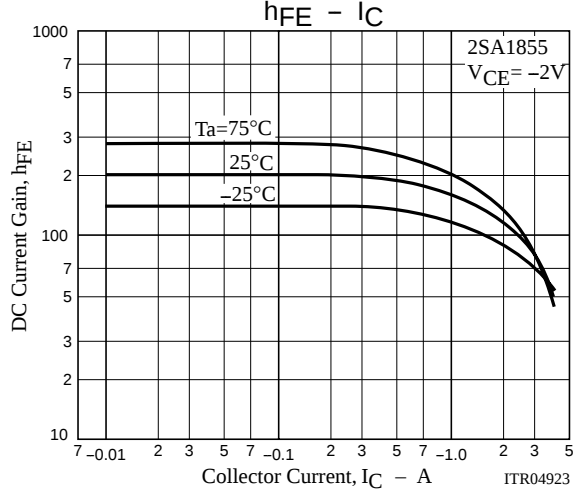
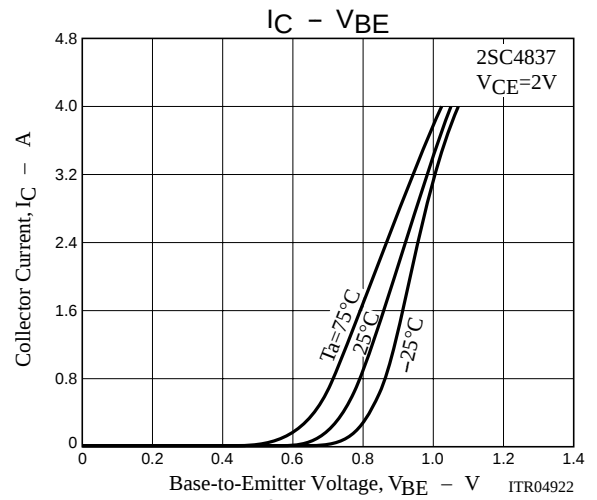
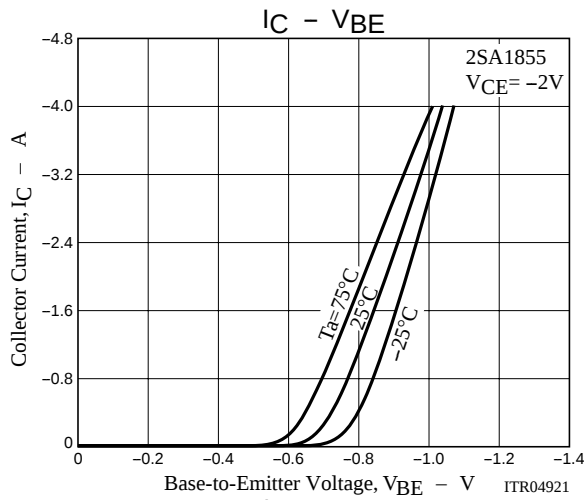
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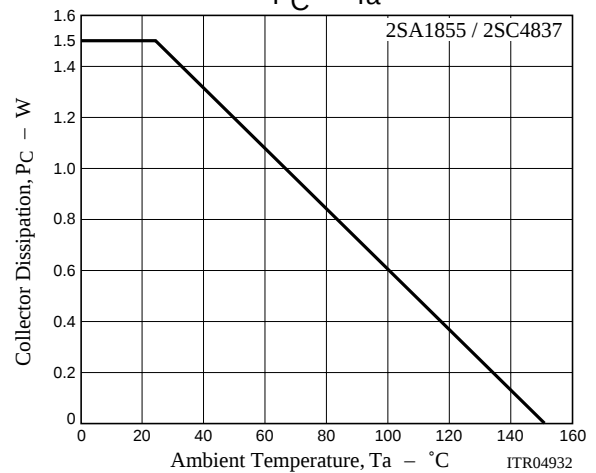
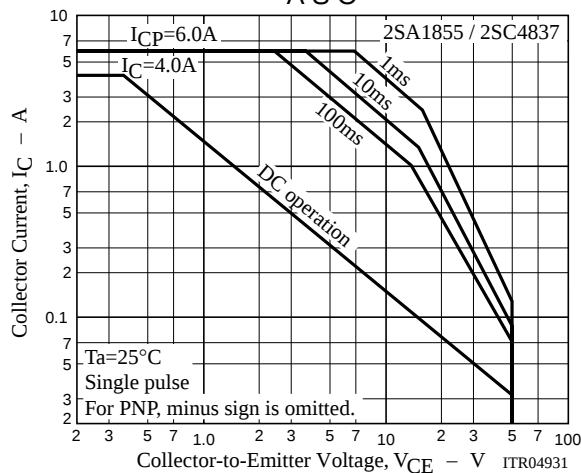
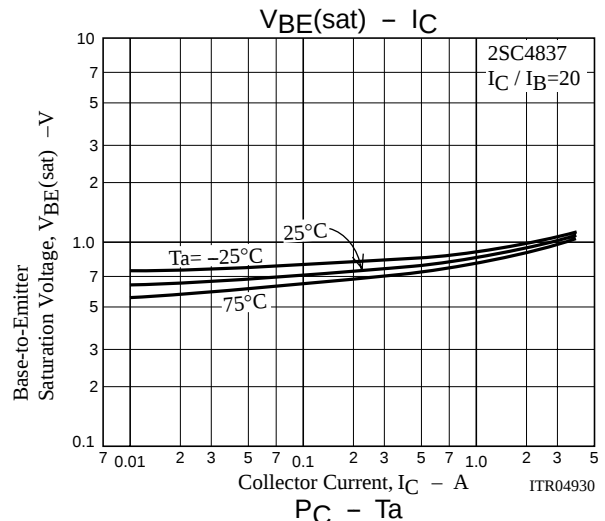
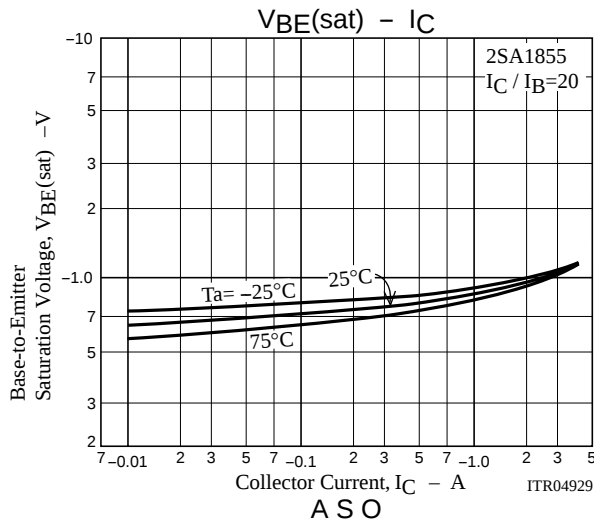
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		(-350)	(-700)	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		190	500	mV
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	(-)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



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