

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

- Power supplies, relay drivers, lamp drivers.

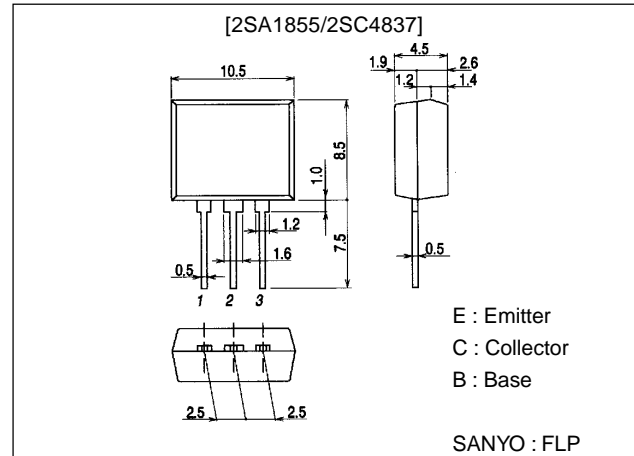
**Features**

- 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	$I_{CBO}$	$V_{CB}=(-)40V, I_E=0$			(-)1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)4V, I_C=0$			(-)1	$\mu A$
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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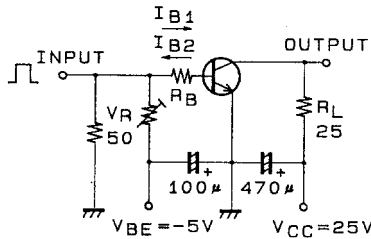
91098HA (KT)/5132MH (KOTO) No.4135-1/4

# 2SA1855/2SC4837

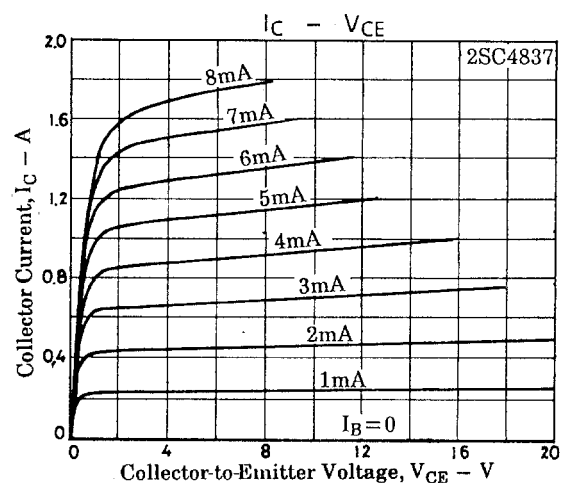
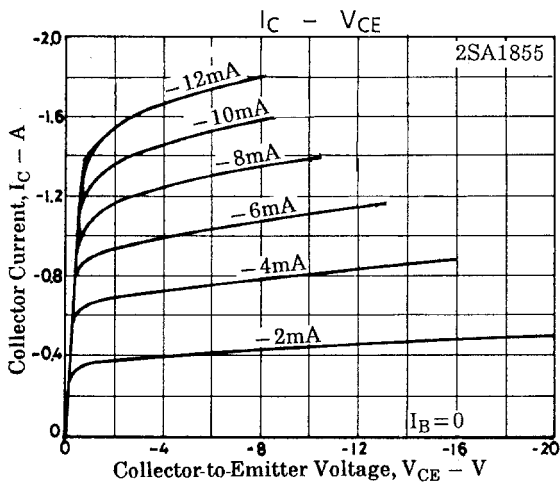
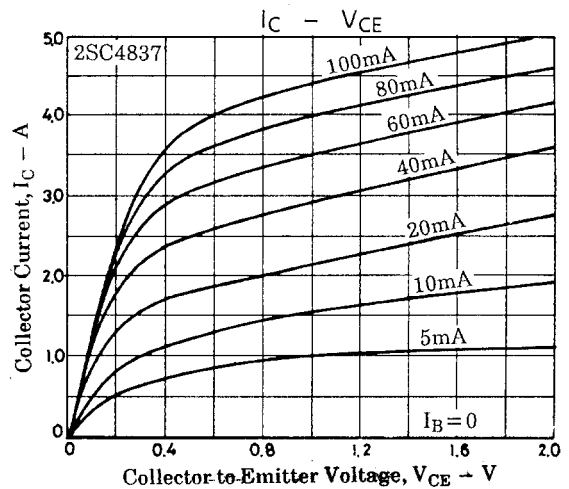
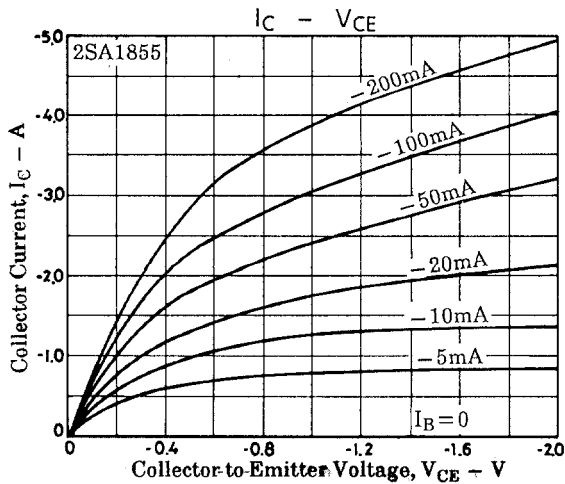
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		(-350)	(-700)	mV
				190	500	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2A, I_B=(-)100mA$		(-)0.94	(-)1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	(-)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

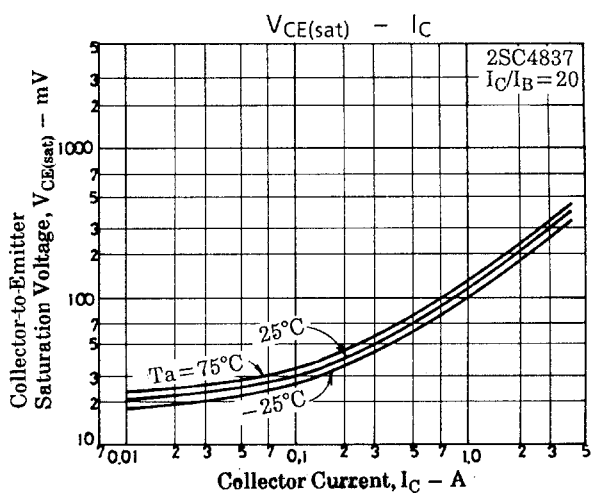
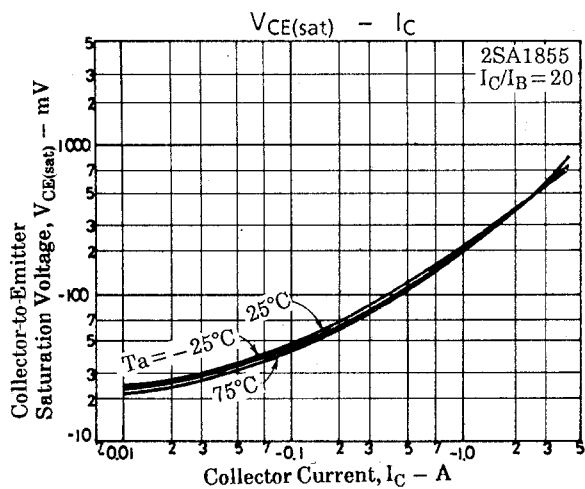
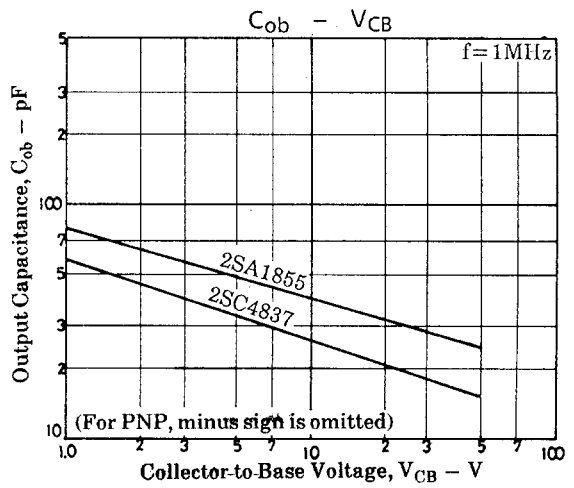
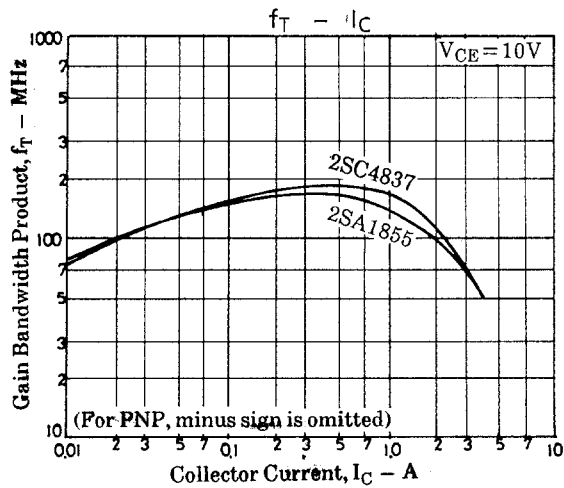
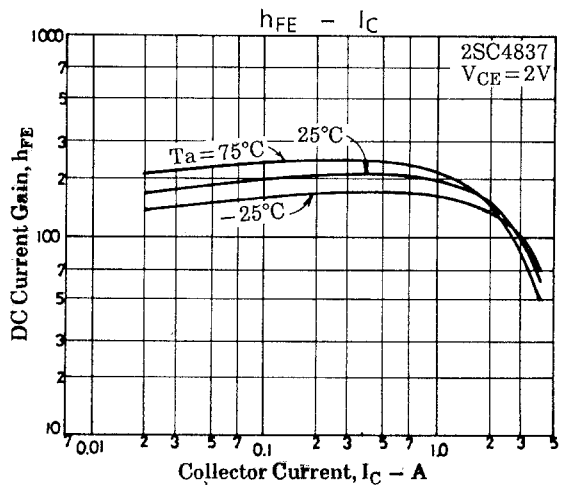
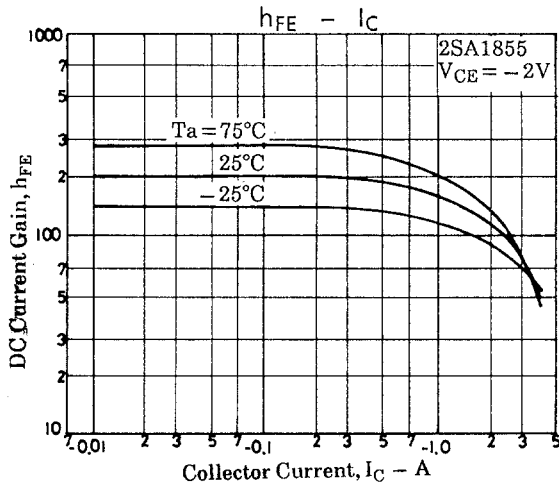
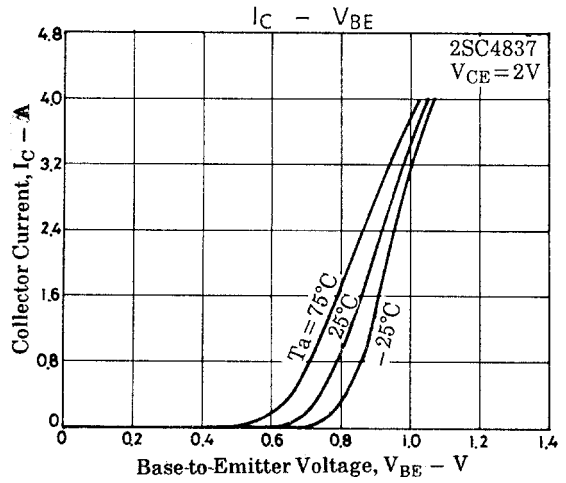
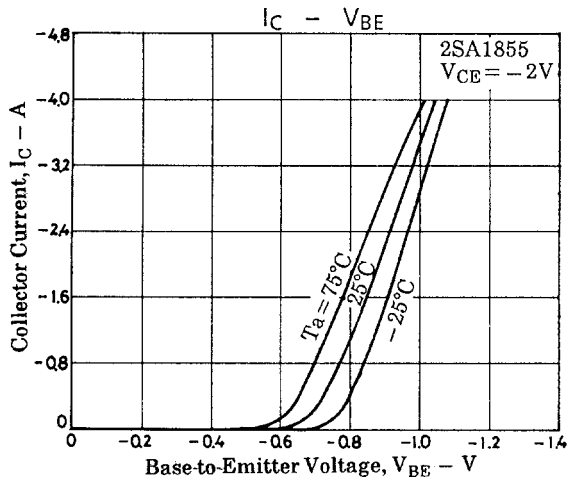
PW = 20  $\mu$ s  
DC  $\leq$  1%



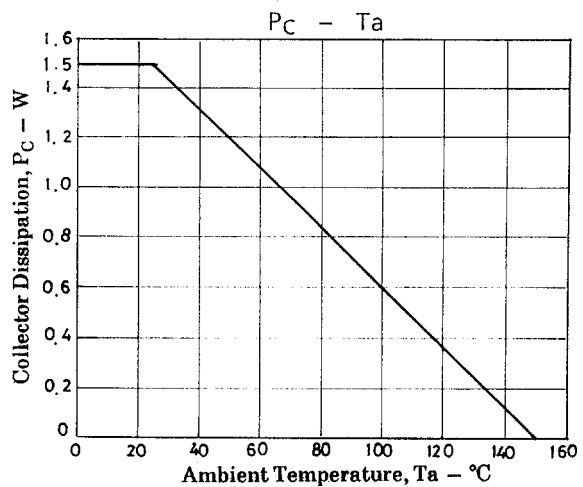
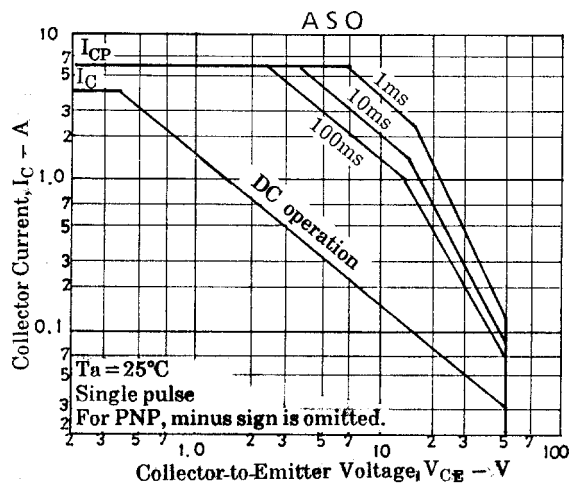
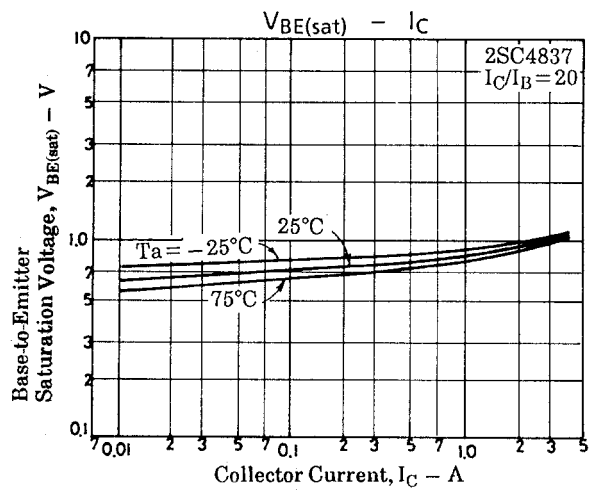
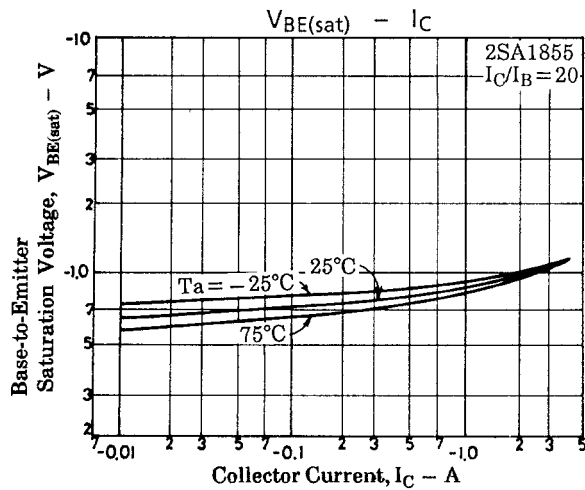
$I_C = 10I_{B1} = -10I_{B2} = 1A$  A00651  
Unit (resistance :  $\Omega$ , capacitance : F)



# 2SA1855/2SC4837



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