



2SA2037 / 2SC5694

DC / DC Converter Applications

Applications

- Relay drivers, lamp drivers, motor drivers and printer drivers.

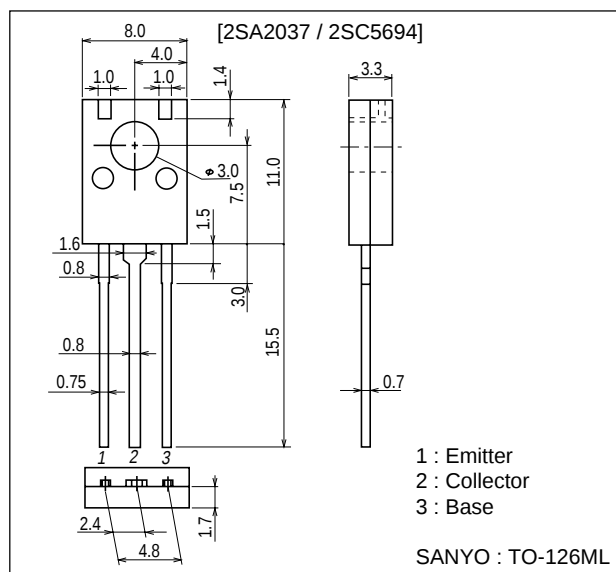
Features

- Adoption of MBIT process.
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- High allowable power dissipation.

Package Dimensions

unit : mm

2042B



Specifications

(): 2SA2037

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-50)60	V
Collector-to-Emitter Voltage	V_{CE0}		(-)50	V
Emitter-to-Base Voltage	V_{EB0}		(-)6	V
Collector Current	I_C		(-)7	A
Collector Current (Pulse)	I_{CP}		(-)10	A
Base Current	I_B		(-)1.2	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	$^\circ\text{C}$

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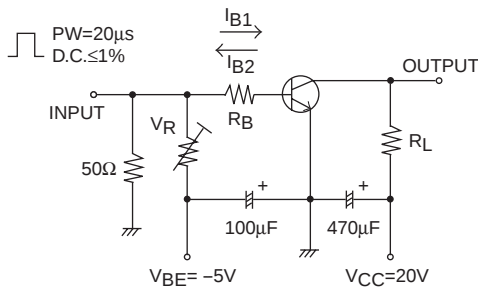
SANYO Electric Co., Ltd. Semiconductor Company

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

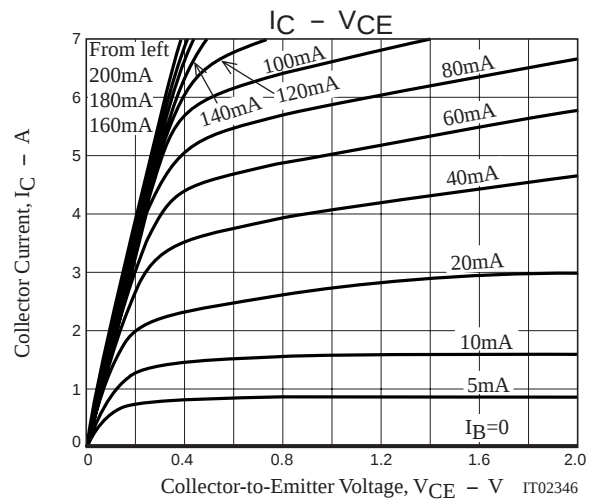
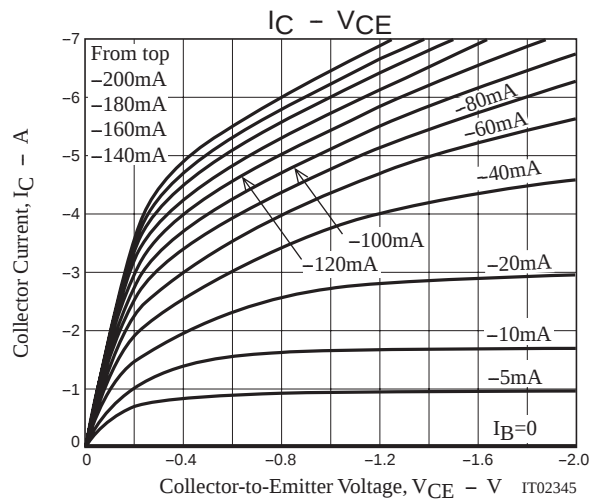
Electrical Characteristics at Ta=25°C

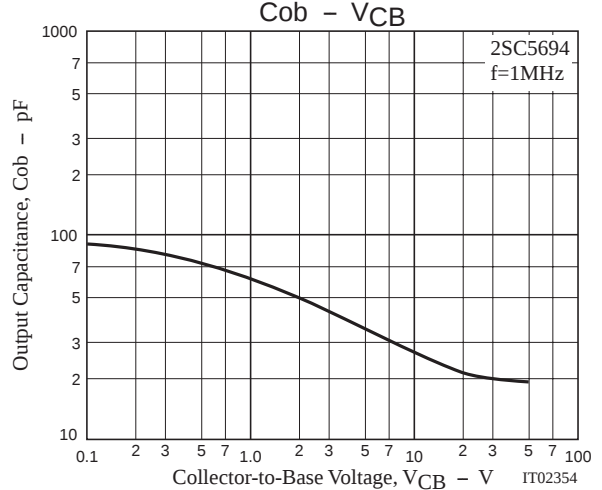
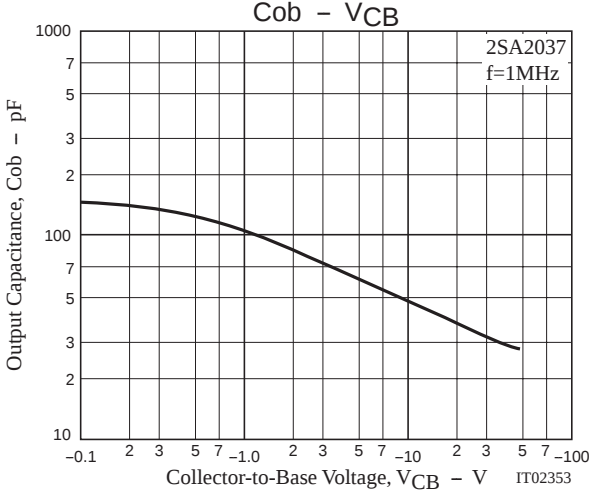
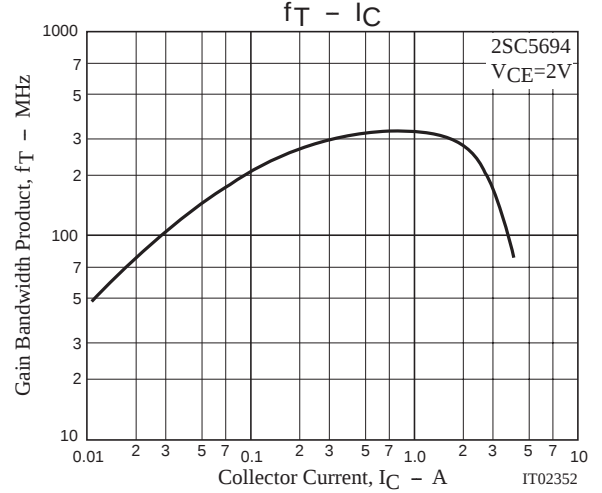
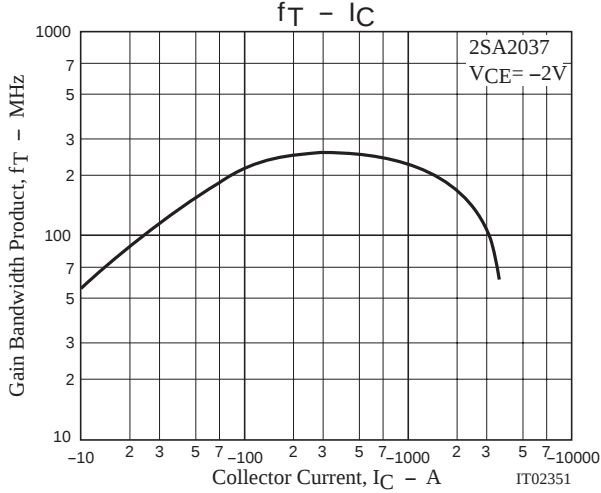
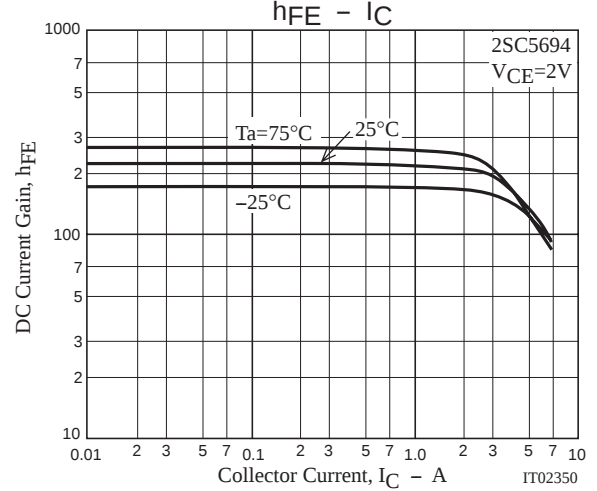
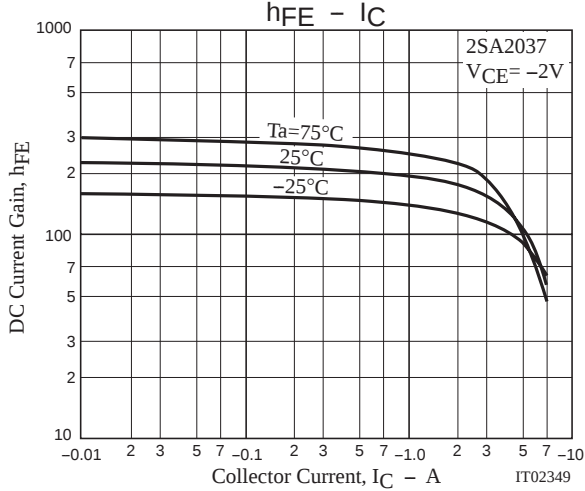
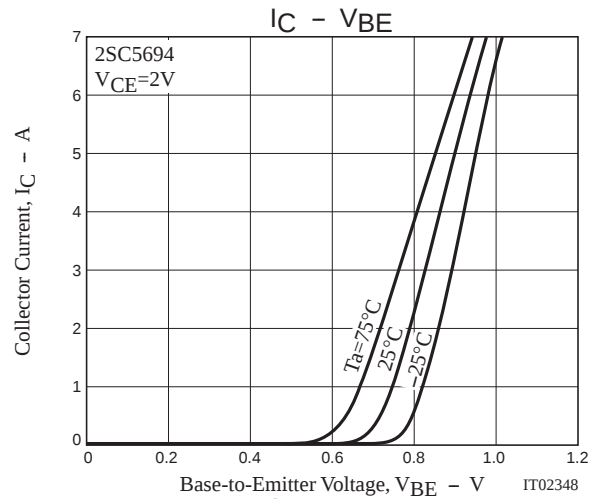
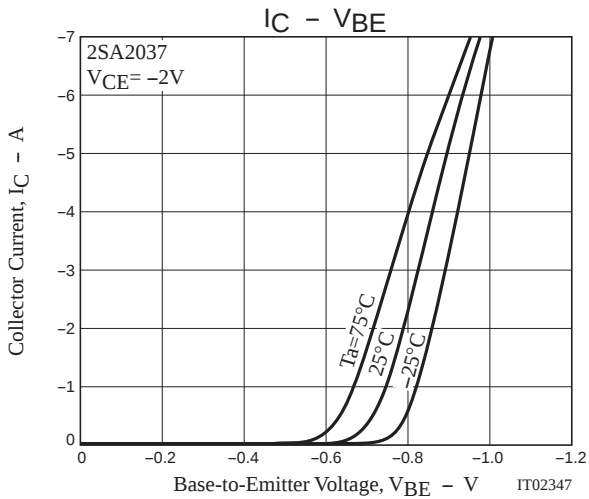
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)40V, I_E=0$			$(-)0.1$	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4V, I_C=0$			$(-)0.1$	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)2V, I_C=(-)1A$	150		300	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10V, I_C=(-)500mA$		(290)330		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(50)28		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2.5A, I_B=(-)125mA$		(-150)130	(-300)260	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2.5A, I_B=(-)125mA$		(-)0.85	(-)1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-50)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.		30		ns
Storage Time	t_{stg}	See specified test circuit.		(250)300		ns
Fall Time	t_f	See specified test circuit.		15		ns

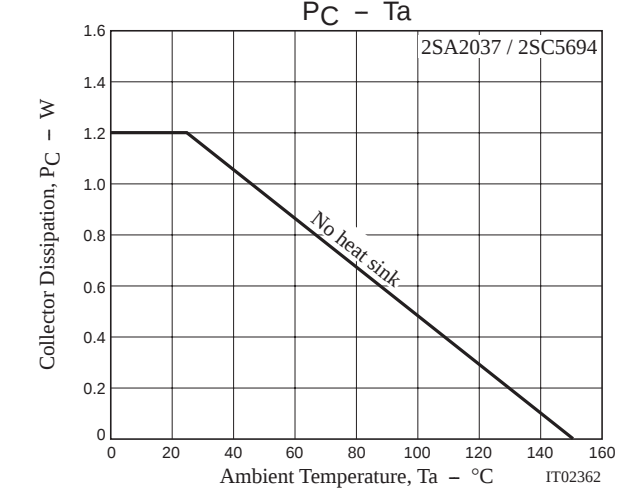
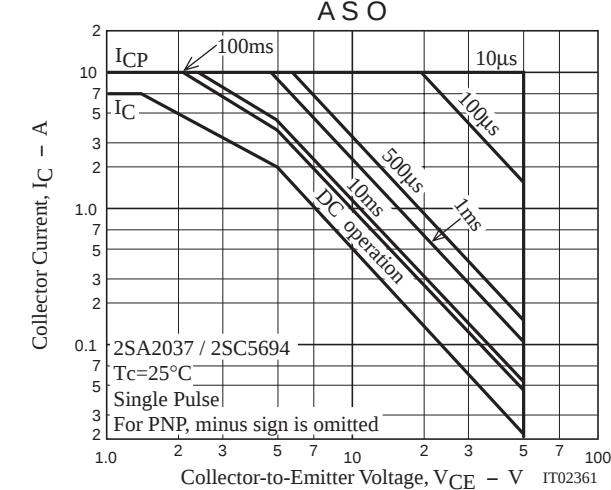
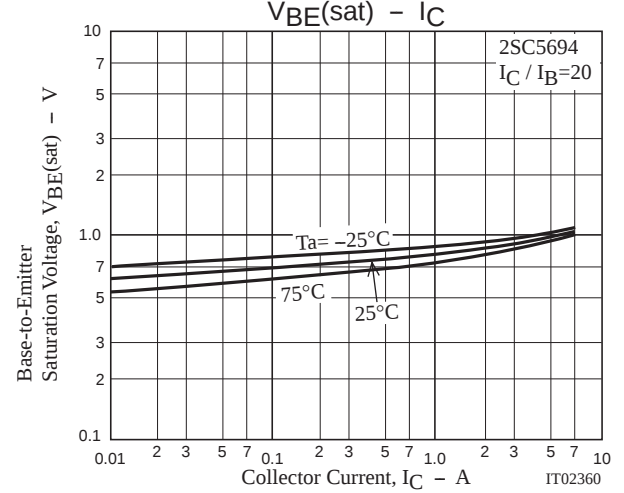
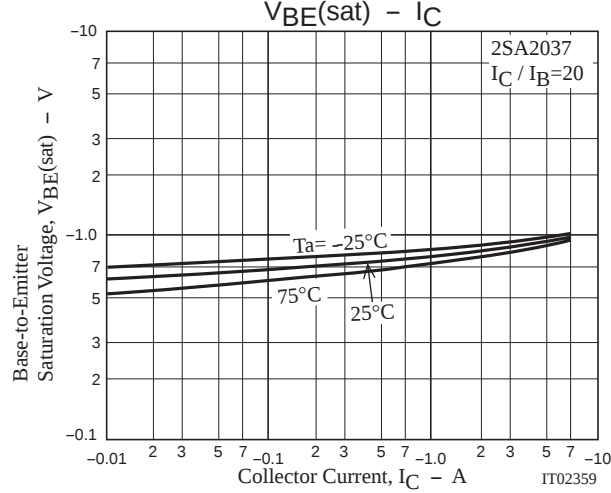
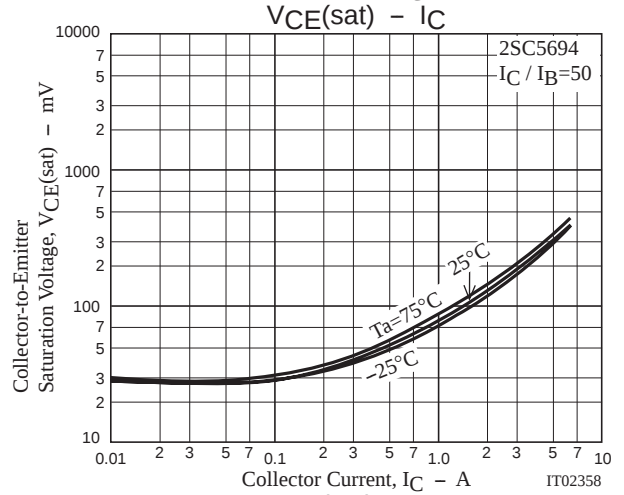
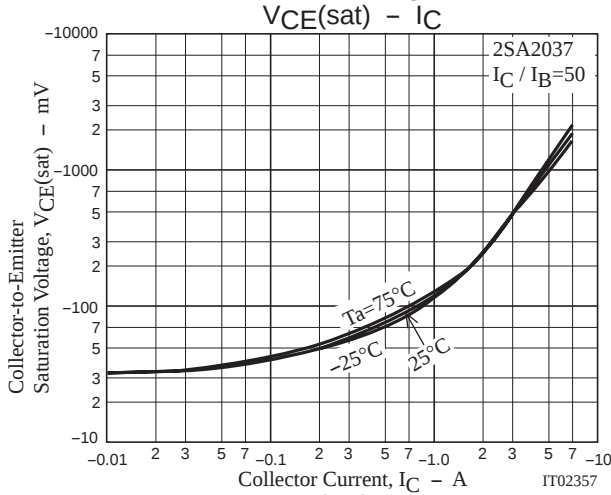
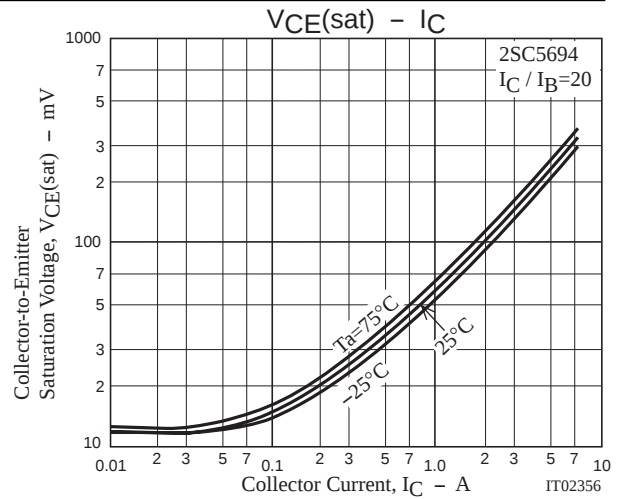
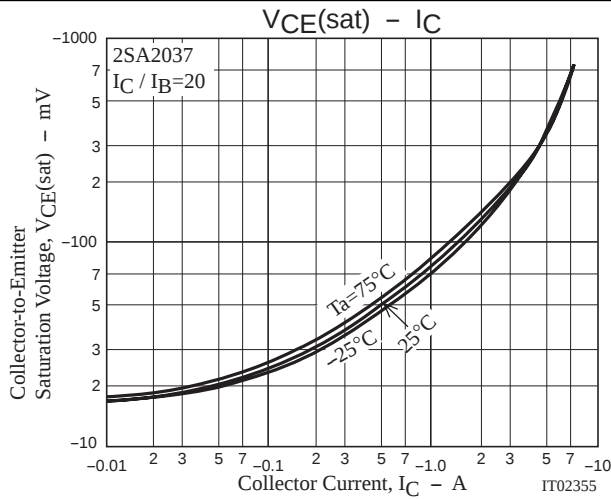
Swicthing Time Test Circuit

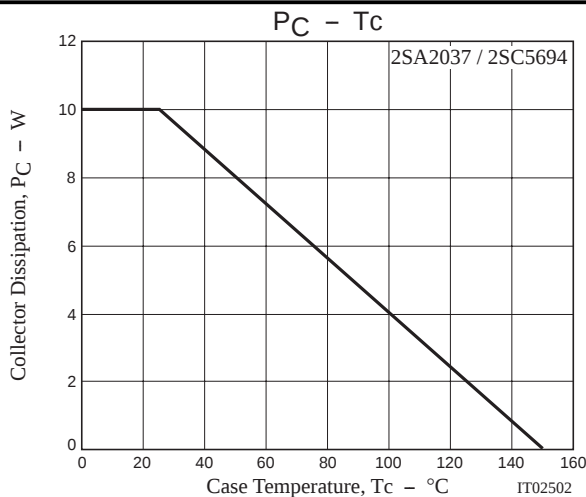


$10I_{B1} = -10I_{B2} = I_C = 2A$
For PNP, the polarity is reversed.









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