

2SA2098 / 2SC5887



High-Current Switching Applications

Applications

- Relay drivers, lamp drivers, motor drivers.

Features

- Adoption of MBIT processes.
- Large current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.

Specifications

() : 2SA2098

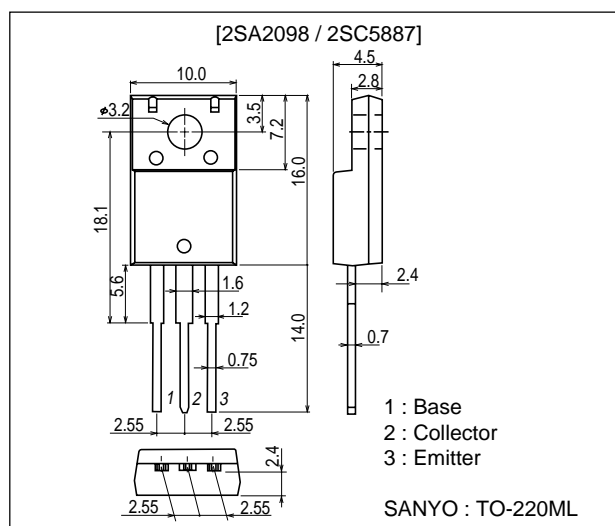
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-50)60	V
Collector-to-Emitter Voltage	V _{CEO}		(-)50	V
Emitter-to-Base Voltage	V _{EBO}		(-)6	V
Collector Current	I _C		(-)15	A
Collector Current (Pulse)	I _{CP}		(-)20	A
Base Current	I _B		(-)3	A
Collector Dissipation	P _C		2	W
		T _c =25°C	30	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Package Dimensions

unit : mm

2041A



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			(-)10	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0			(-)10	μA
DC Current Gain	h _{FE}	V _{CE} =(-)2V, I _C =(-)1A	180		(400)560	
Gain-Bandwidth Product	f _T	V _{CE} =(-)10V, I _C =(-)1A		(200)300		MHz

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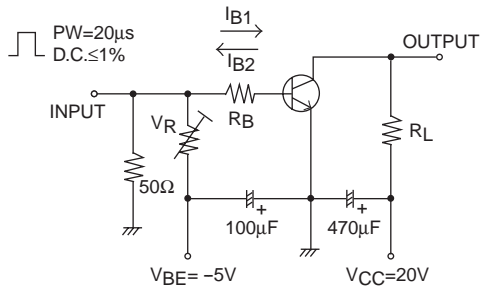
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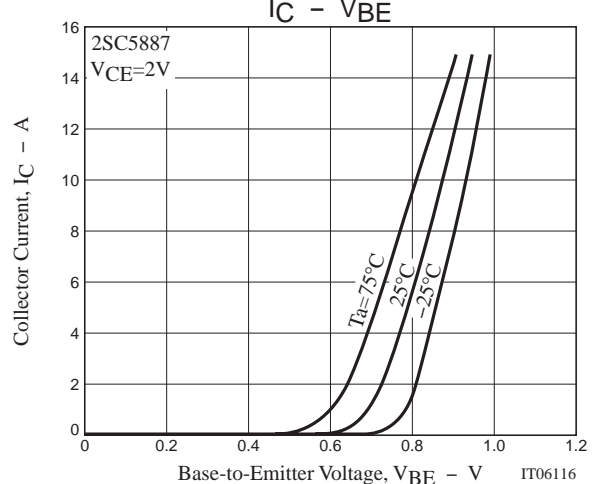
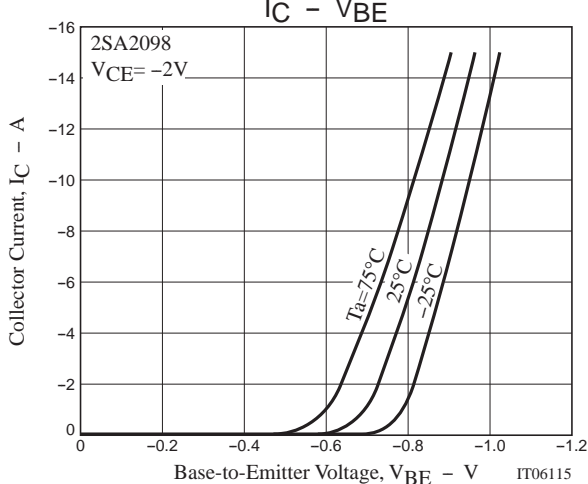
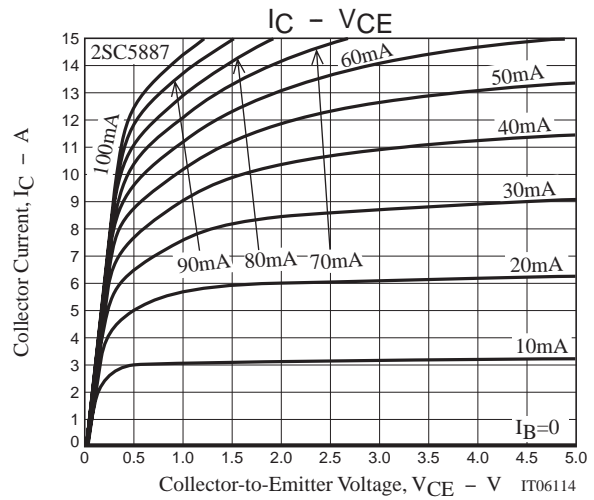
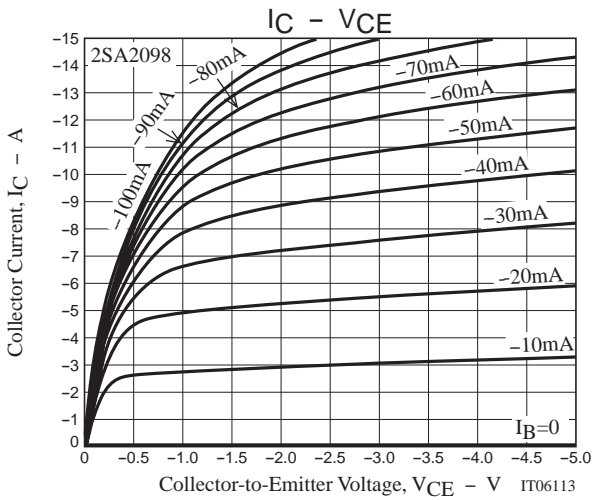
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	C_{ob}	$V_{CB} = (-)10V, f = 1MHz$		(200)100		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)7A, I_B = (-)350mA$		(-200)160	(-500)400	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)7A, I_B = (-)350mA$		(-)0.94	(-)1.4	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)100\mu A, I_E = 0$	(-50)60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)100\mu A, I_C = 0$	(-)6			V
Turn-ON Time	$t_d(on)$	See specified Test Circuit.		(80)50		ns
Storage Time	t_{stg}	See specified Test Circuit.		(400)700		ns
Fall Time	t_f	See specified Test Circuit.		(30)40		ns

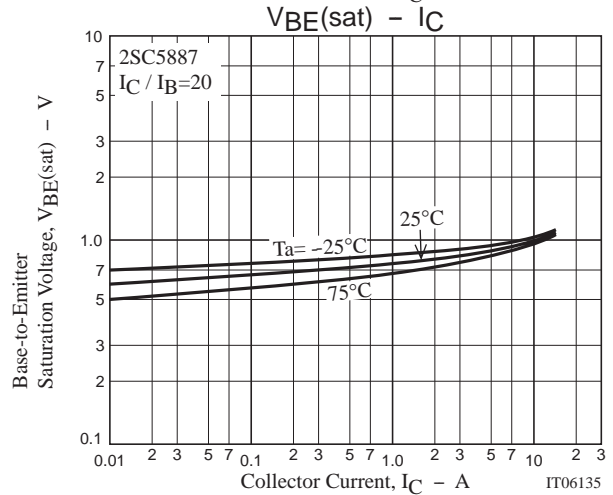
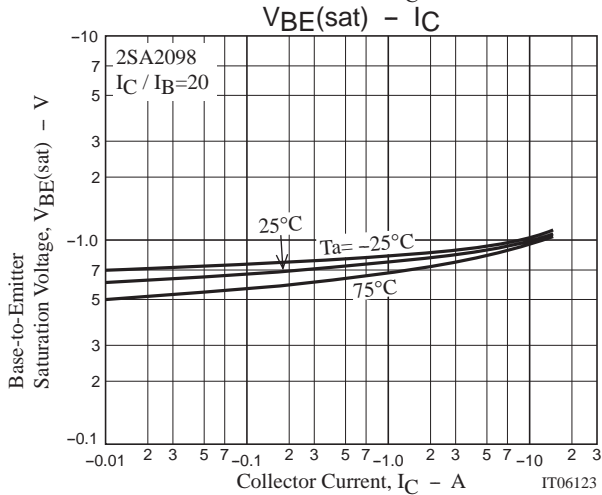
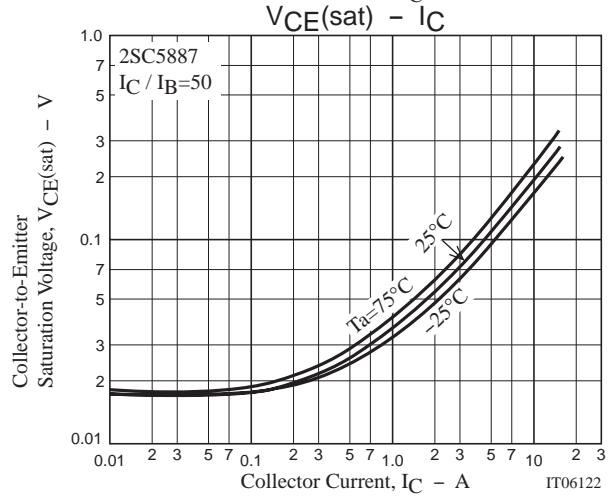
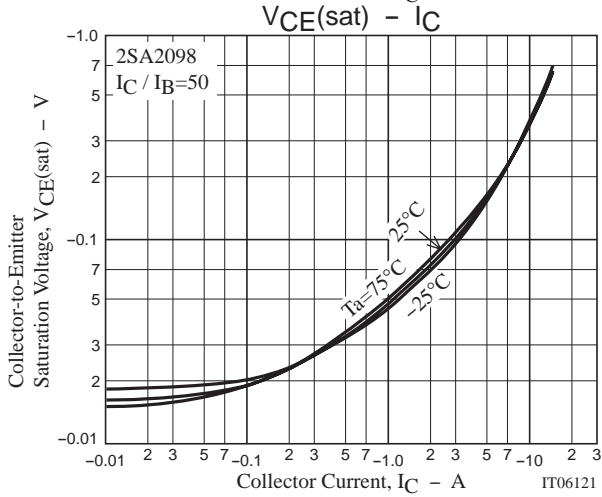
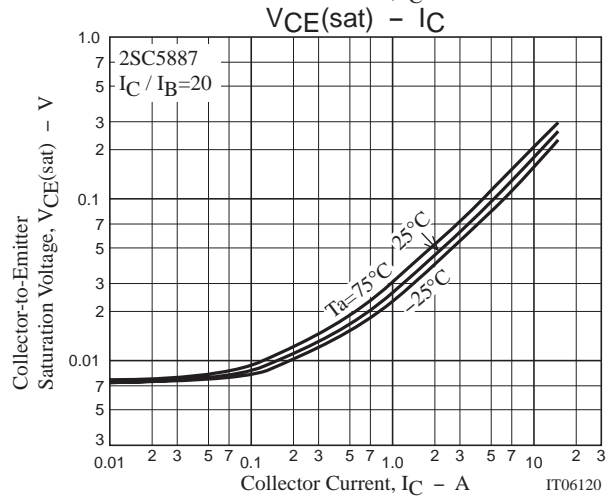
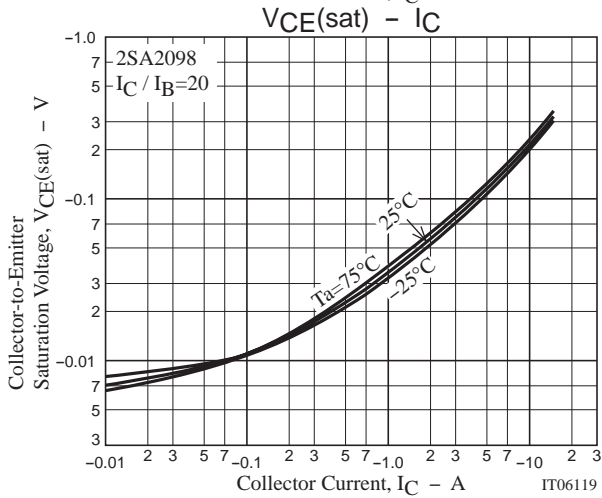
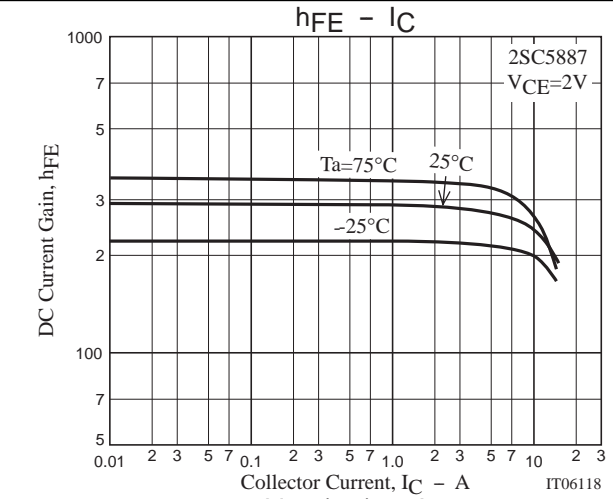
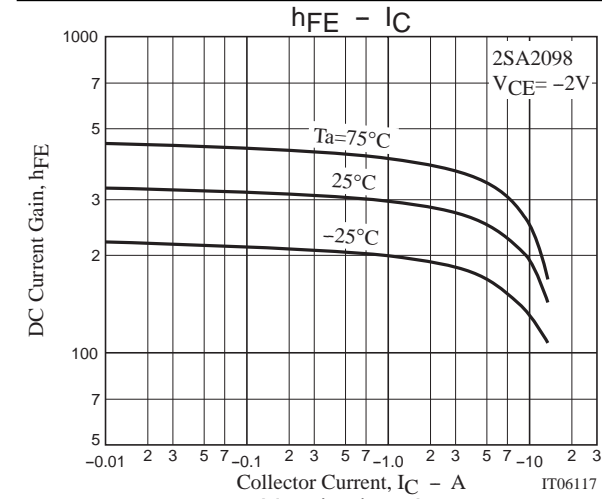
Switching Time Test Circuit



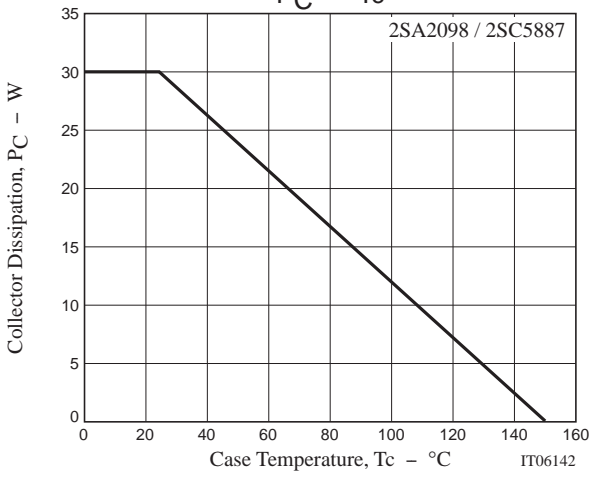
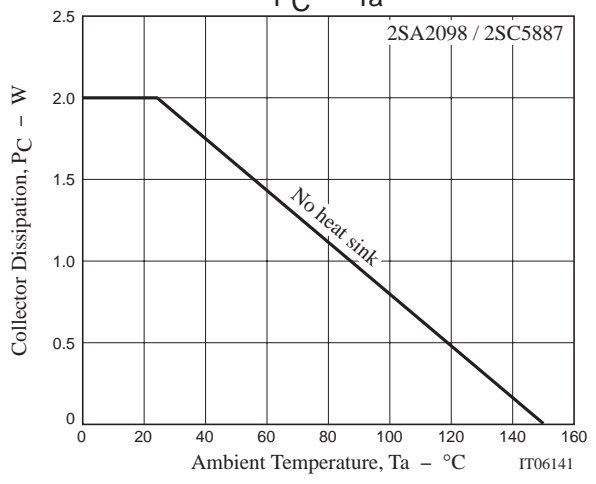
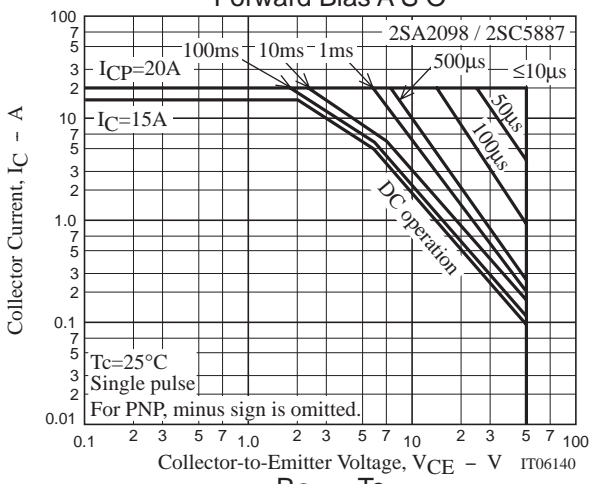
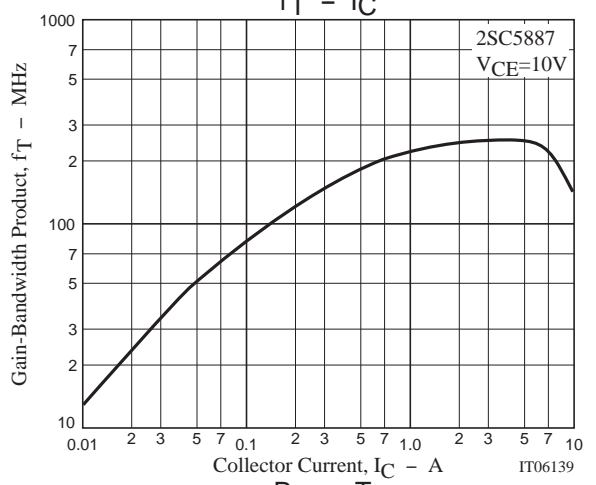
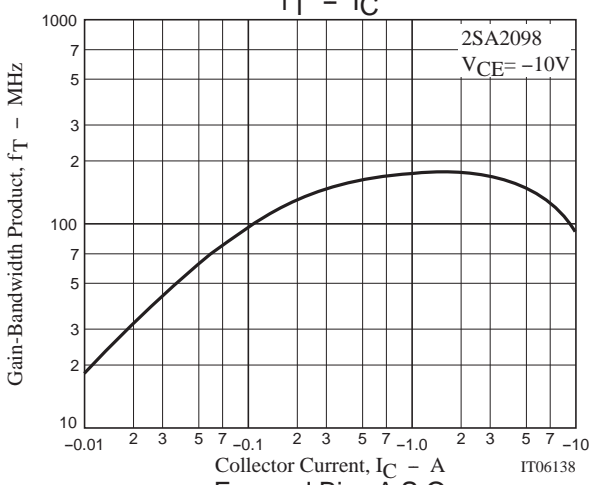
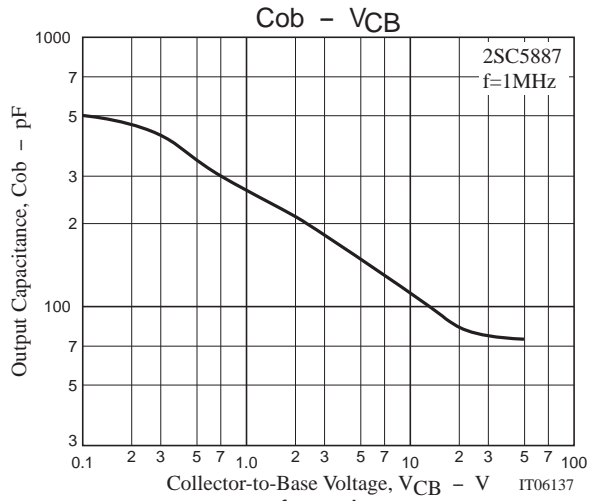
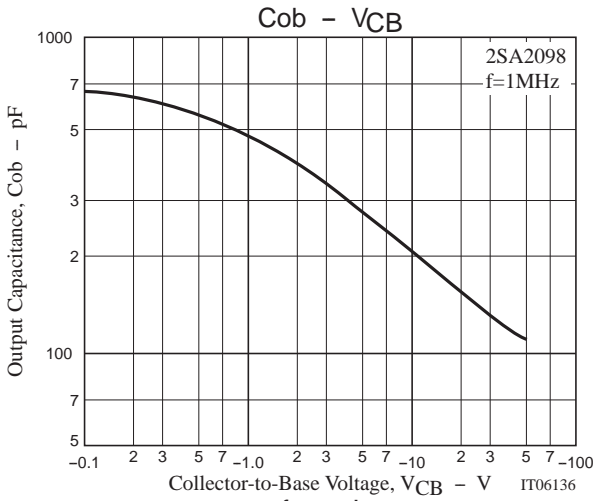
$I_C = 20I_{B1} = -20I_{B2} = 5A$
 (For PNP, minus sign is omitted.)



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