

**2SA1898****DC/DC Converter Application****Applications**

- High-speed switching.

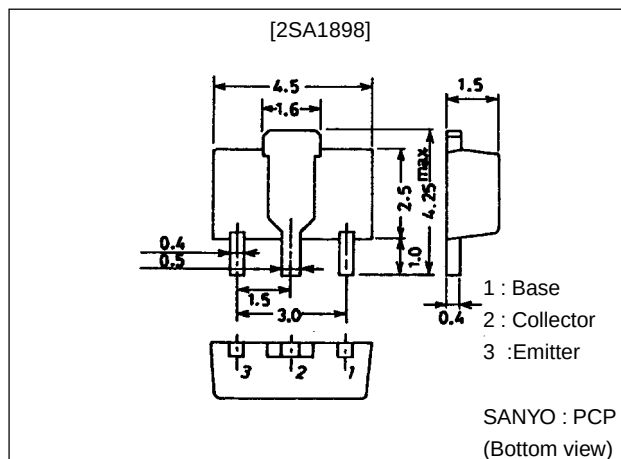
Features

- Adoption of FBET and MBIT processes.
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- Fast switching speed.

Package Dimensions

unit:mm

2038A

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-15	V
Collector-to-Emitter Voltage	V_{CEO}		-15	V
Emitter-to-Base Voltage	V_{EBO}		-5	V
Collector Current	I_C		-3	A
Collector Current (Pulse)	I_{CP}		-5	A
Base Current	I_B		-600	mA
Collector Dissipation	P_C	Mounted on ceramic board (250mm ² ×0.8mm)	1.3	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}	$V_{CB}=-12V, I_E=0$			-1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-3V, I_C=0$			-1	μA
DC Current Gain	h_{FE1}	$V_{CE}=-2V, I_C=-0.5A$	100*		280*	
	h_{FE2}	$V_{CE}=-2V, I_C=-3A$	50			
Gain-Bandwidth Product	f_T	$V_{CE}=-2V, I_C=-0.3A$		300		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		28		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-1.5A, I_B=-75mA$		-0.25	-0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1.5A, I_B=-75mA$		-0.95	-1.2	V

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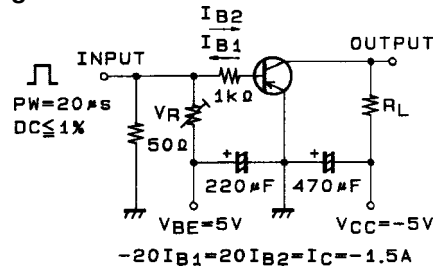
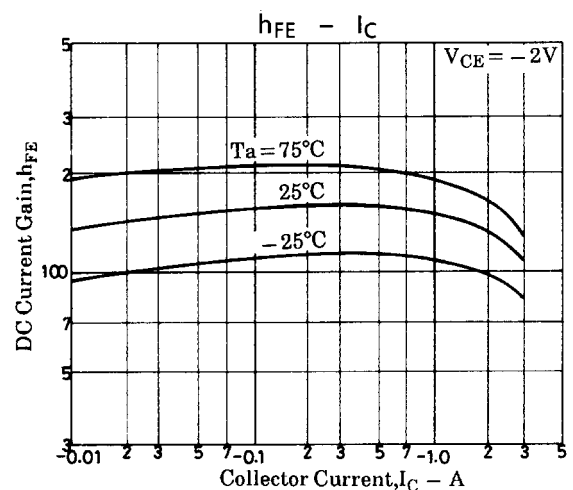
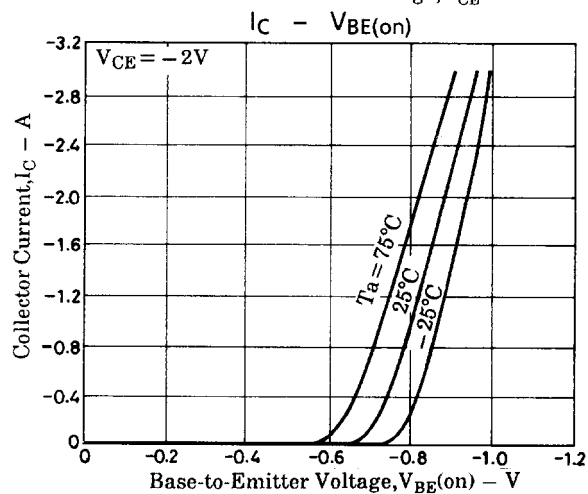
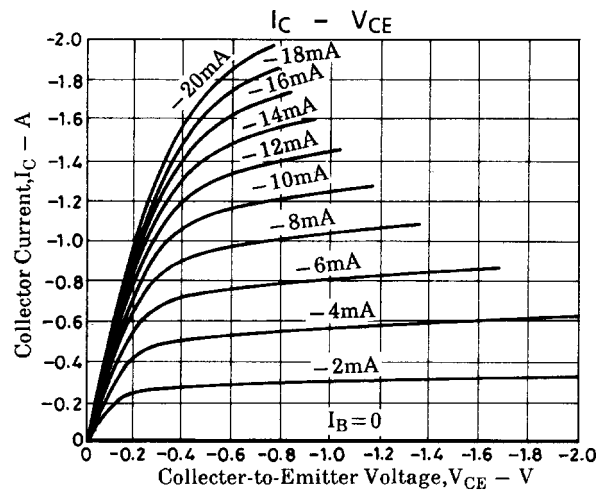
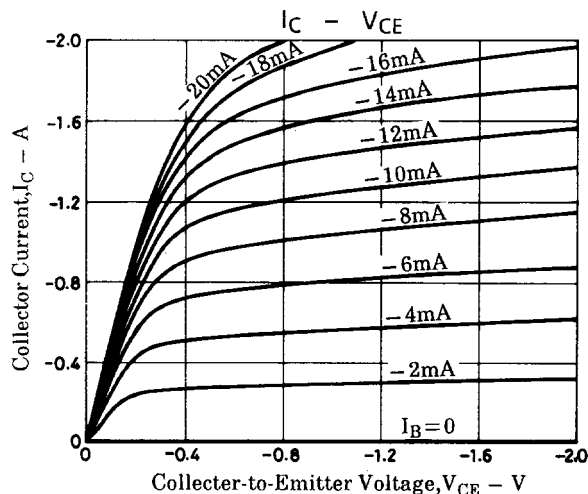
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		30	60	ns
Storage Time	t_{stg}	See specified Test Circuit.		100	200	ns
Turn-OFF Time	t_{off}	See specified Test Circuit.		120	220	ns

* : The 2SA1898 is classified by 500A h_{FE} as follows :

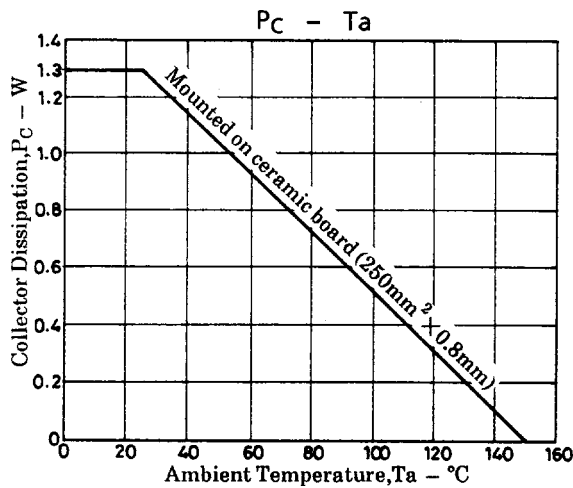
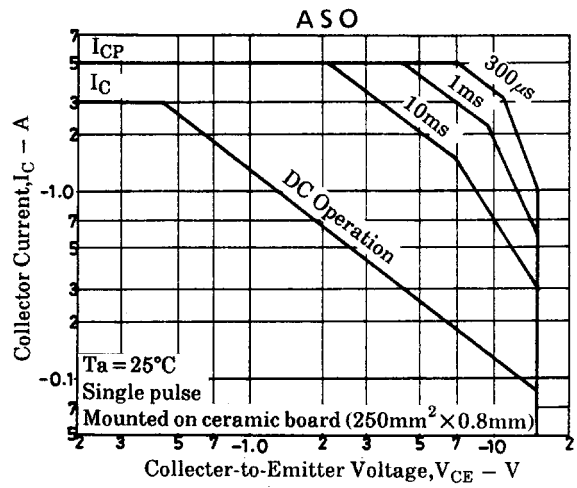
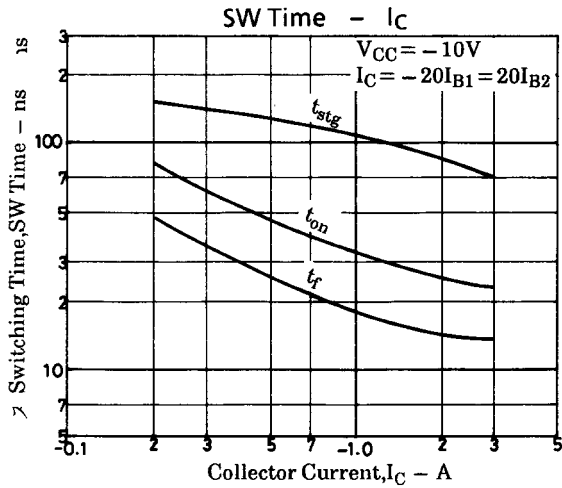
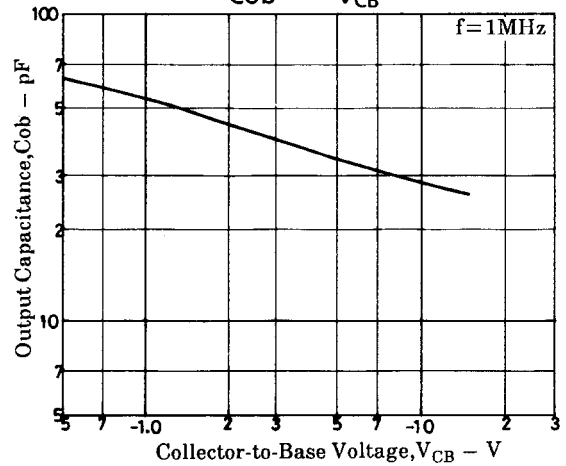
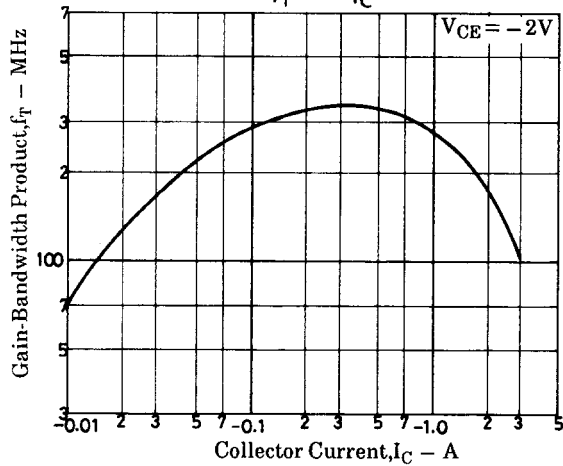
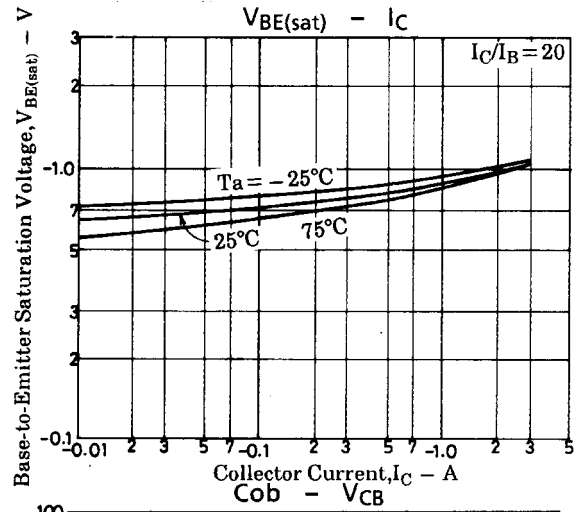
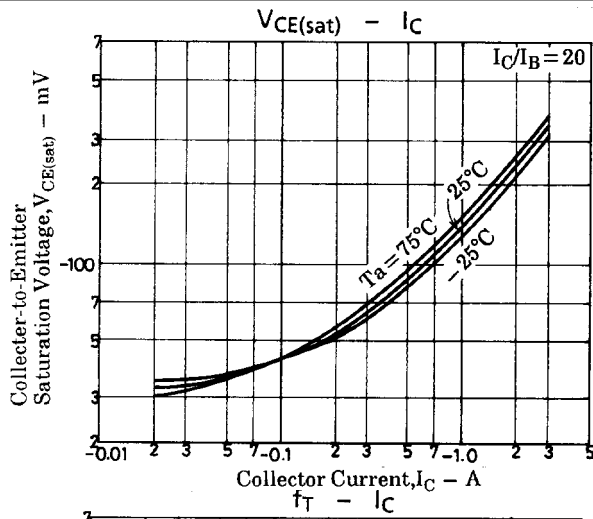
100	R	200	140	S	280
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Marking : AN

Switching Time Test Circuit

Unit (resistance : Ω , capacitance : F)

2SA1898



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