

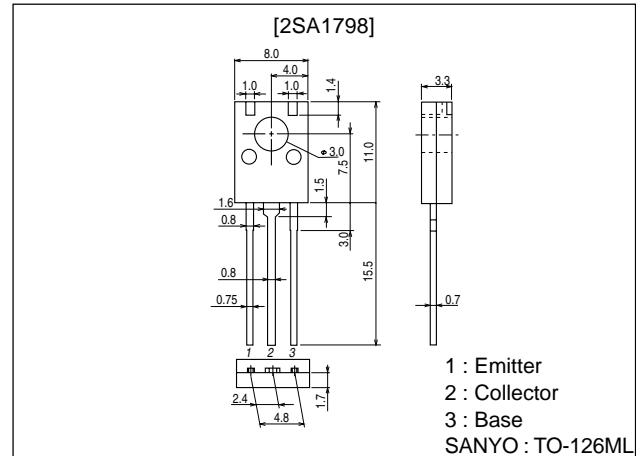
**2SA1798****20V/8A Switching Applications****Features**

- Adoption of MBIT processes.
- Low saturation voltage.
- Fast switching speed.
- Large current capacity.

Package Dimensions

unit:mm

2042B

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		-25	V
Collector-to-Emitter Voltage	V_{CE0}		-20	V
Emitter-to-Base Voltage	V_{EBO}		-5	V
Collector Current	I_C		-8	A
Collector Current (Pulse)	I_{CP}		-12	A
Base Current	I_B		-1.5	A
Collector Dissipation	P_C		1.5	W
		$T_c=25^\circ\text{C}$	10	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB}=-20\text{V}, I_E=0$			-1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0$			-1	μA
DC Current Gain	h_{FE1}	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$	100*		400*	
	h_{FE2}	$V_{CE}=-2\text{V}, I_C=-6\text{A}$	60			
Gain-Bandwidth Product	f_T	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$		200		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, f=1\text{MHz}$		85		pF

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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

80103TN (KT)/83198HA (KT)/5201MH (KOTO) No.3709-1/4

2SA1798

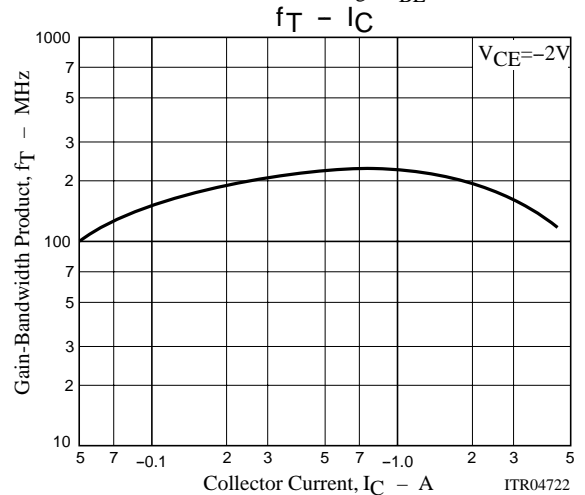
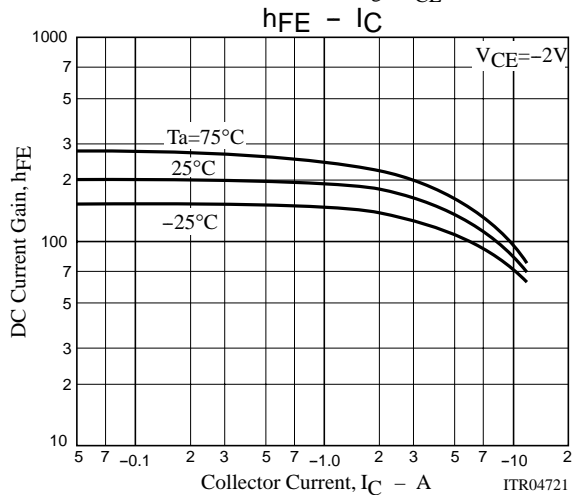
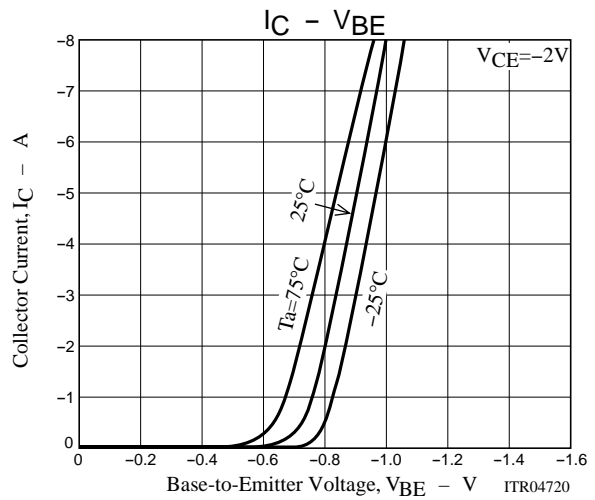
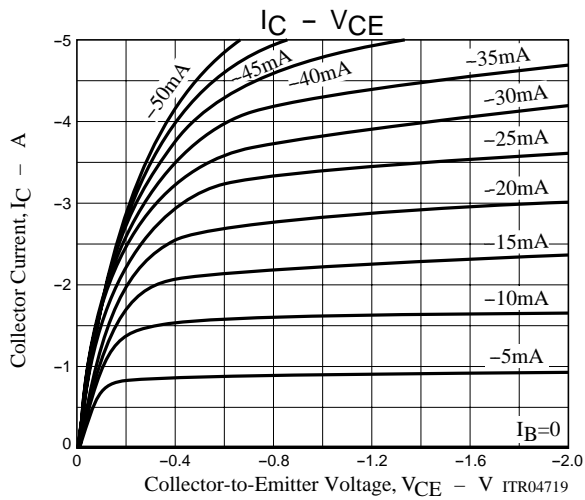
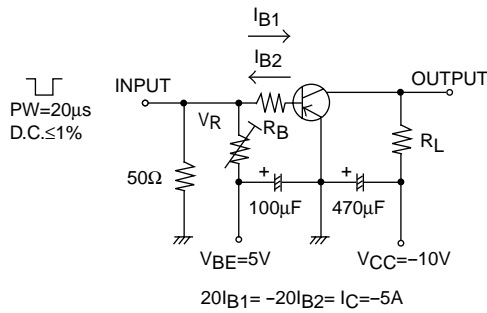
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -5A, I_B = -250mA$		-220	-400	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -5A, I_B = -250mA$		-1	-1.3	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-25			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-20			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		ns
Storage Time	t_{stg}	See specified Test Circuit		200		ns
Fall Time	t_f	See specified Test Circuit		15		ns

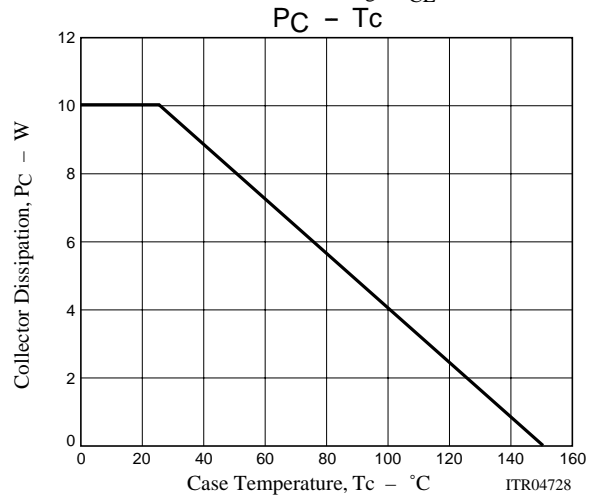
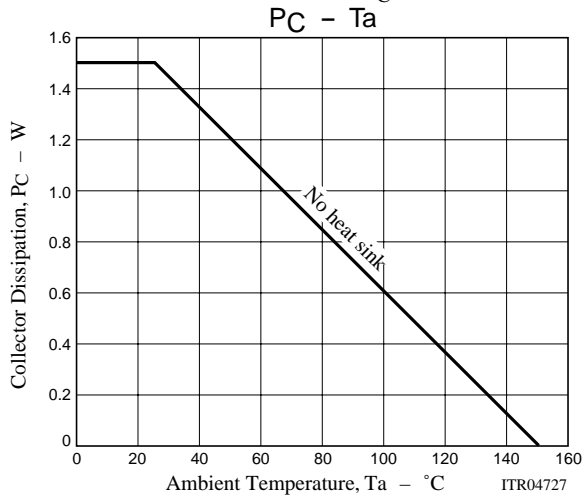
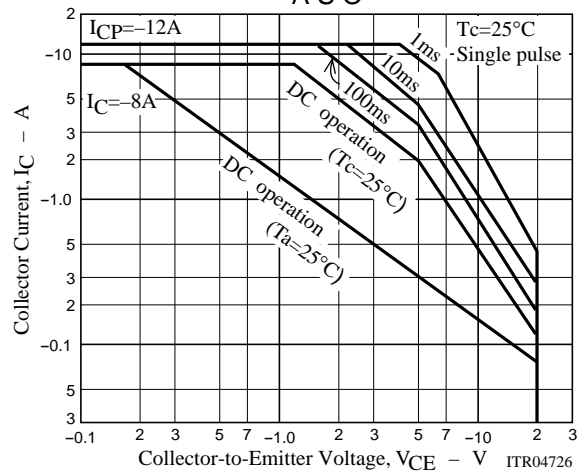
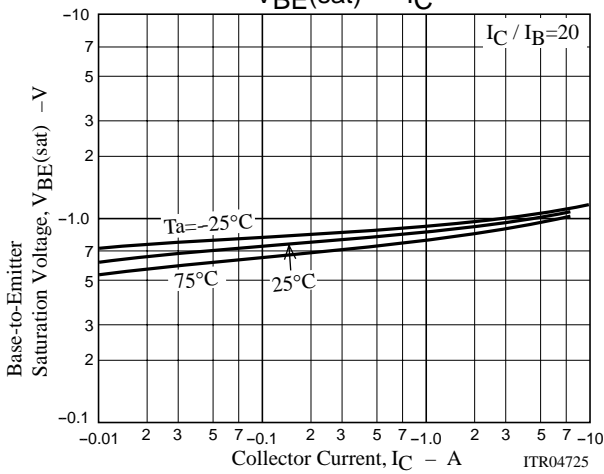
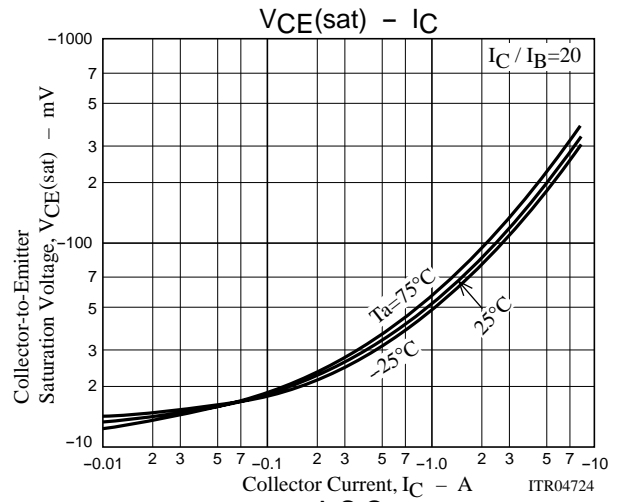
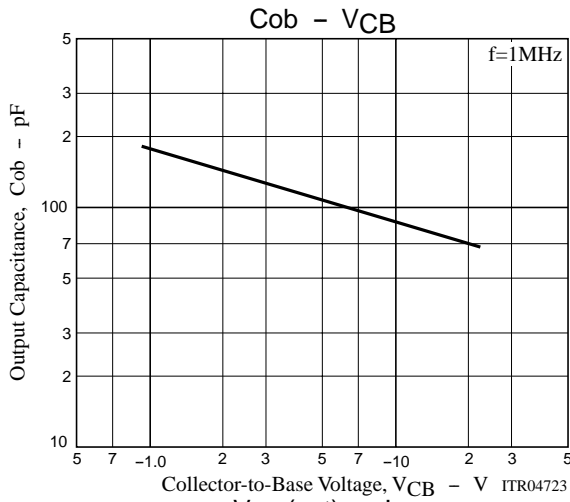
* : The 2SA1798 is classified by 500mA h_{FE} as follows :

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

Switching Time Test Circuit



2SA1798



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