

# 2SA1798

PNP Epitaxial Planar Silicon Transistor

## 20V/8A Switching Applications

### Features

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

### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Value	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>	-25	V
Collector-to-Emitter Voltage	V <sub>CE0</sub>	-20	V
Emitter-to-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current	I <sub>C</sub>	-8	A
Collector Current (Pulse)	I <sub>CP</sub>	-12	A
Base Current	I <sub>B</sub>	-1.5	A
Collector Dissipation	P <sub>C</sub>	1.5	W
T <sub>c</sub> = 25°C			
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

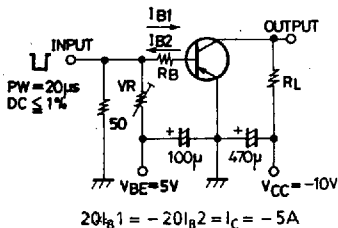
### Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Test Conditions	min	typ	max	unit
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> = -20V, I <sub>E</sub> = 0			-1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = -4V, I <sub>C</sub> = 0			-1	μA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> = -2V, I <sub>C</sub> = -500mA	100*		400*	
		h <sub>FE</sub> (2)		60		
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -500mA		200		MHz
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -5A, I <sub>B</sub> = -250mA	-220	-400		mV
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -5A, I <sub>B</sub> = -250mA	-1	-1.3		V
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, f = 1MHz		85		pF
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -10μA, I <sub>E</sub> = 0	-25			V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -1mA, R <sub>BE</sub> = ∞	-20			V
E-B Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -10μA, I <sub>C</sub> = 0	-5			V
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit.		30		ns
Storage Time	t <sub>stg</sub>	"		200		ns
Fall Time	t <sub>f</sub>	"		15		ns

\* : The 2SA1798 is classified by 500mA h<sub>FE</sub> as follows.

100 R	200	140 S	280	200 T	400
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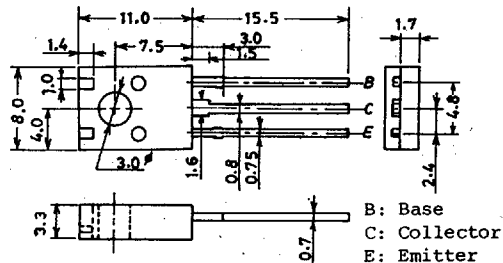
### Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)

### Package Dimensions 2042A

(unit : mm)



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