Ordering number: EN3709

SANYO | No.3709

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

				unit
Collector-to-Base Voltage	V_{CBO}		−25	V
Collector-to-Emitter Voltage	V_{CEO}		−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
		Tc = 25°C	10	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

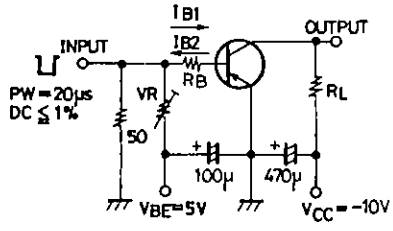
Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = −20V, I_E = 0			−1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = −4V, I_C = 0			−1	μA
DC Current Gain	$h_{FE}(1)$	V_{CE} = −2V, I_C = −500mA	100※		400※	
	$h_{FE}(2)$	V_{CE} = −2V, I_C = −6A	60			
Gain-Bandwidth Product	f_T	V_{CE} = −2V, I_C = −500mA		200		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = −5A, I_B = −250mA		−220	−400	mV
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = −5A, I_B = −250mA		−1	−1.3	V
Output Capacitance	Cob	V_{CB} = −10V, f = 1MHz		85		pF
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C = −10μA, I_E = 0	−25			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C = −1mA, R_{BE} = ∞	−20			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E = −10μA, I_C = 0	−5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		30		ns
Storage Time	t_{stg}	〃		200		ns
Fall Time	t_f	〃		15		ns

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

100 R 200	140 S 280	200 T 400

Switching Time Test Circuit

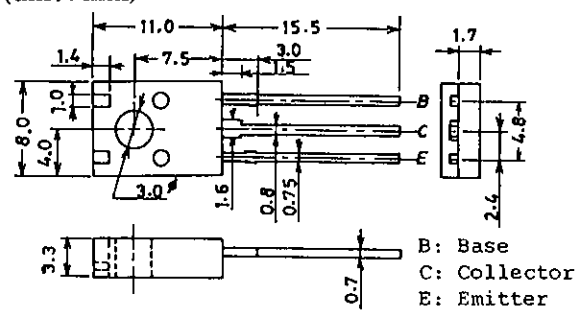


$20I_{B}1 = -20I_{B}2 = I_C = -5A$

Unit (Resistance : Ω, Capacitance : F)

Package Dimensions 2042A

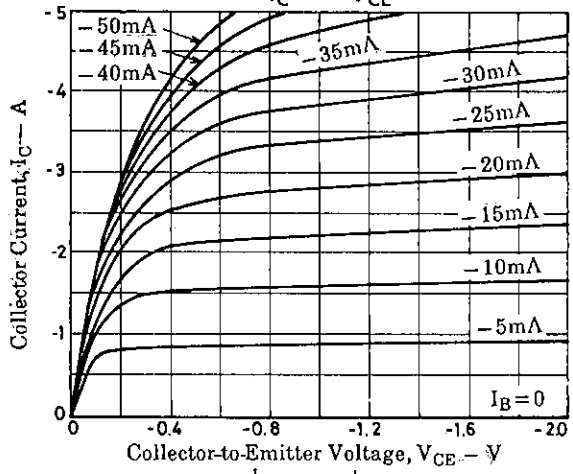
(unit : mm)



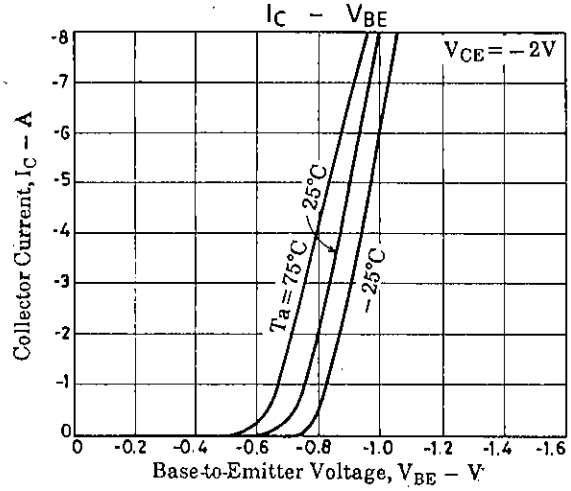
B: Base
C: Collector
E: Emitter

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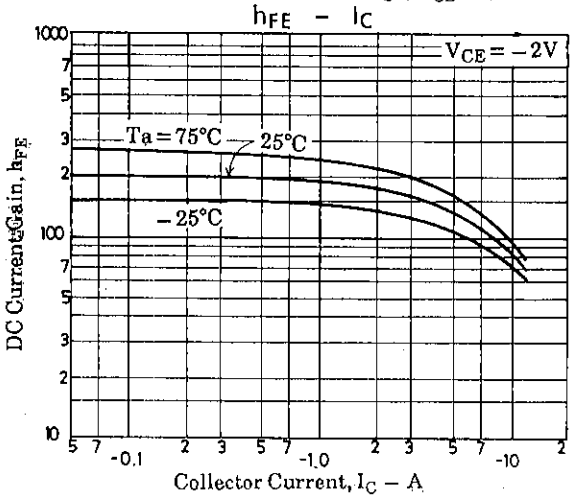
I_C – V_{CE}



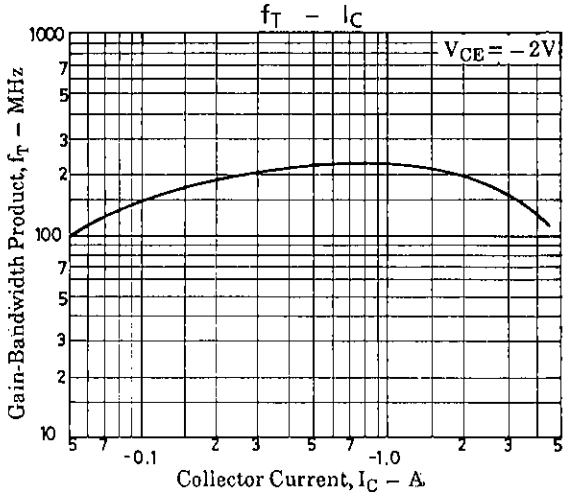
I_C – V_{BE}



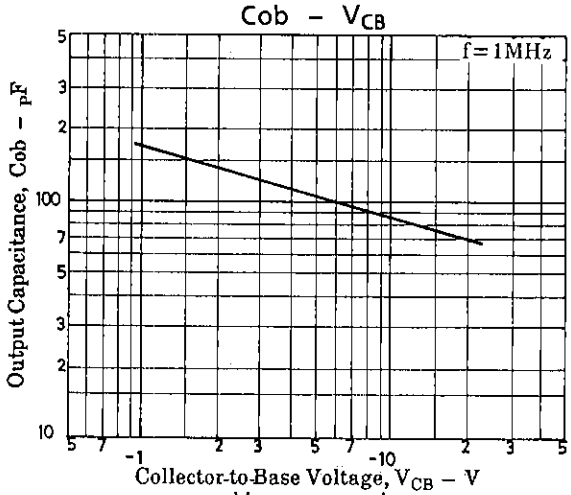
h_{FE} – I_C



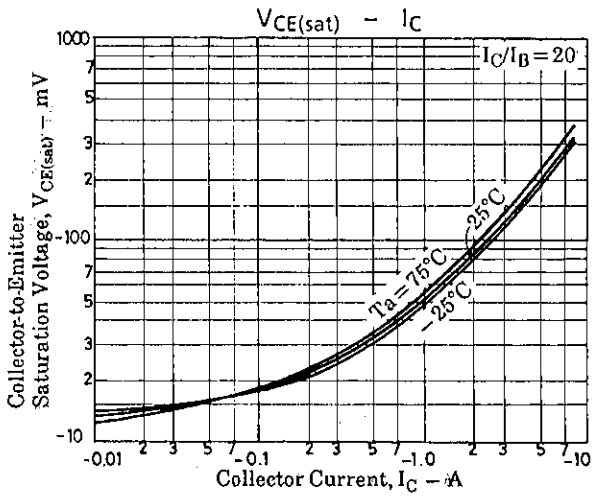
f_T – I_C



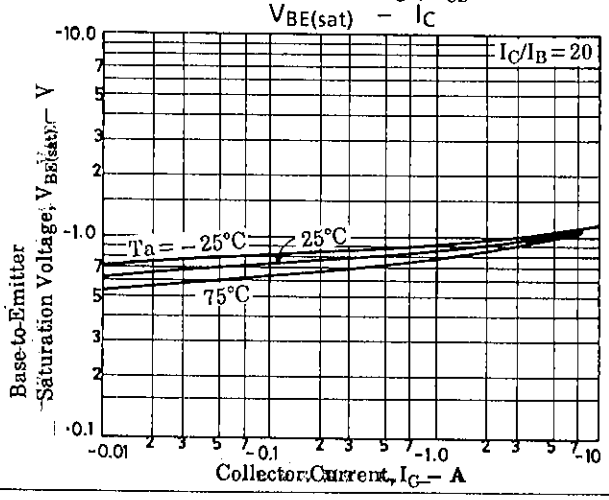
Cob – V_{CB}



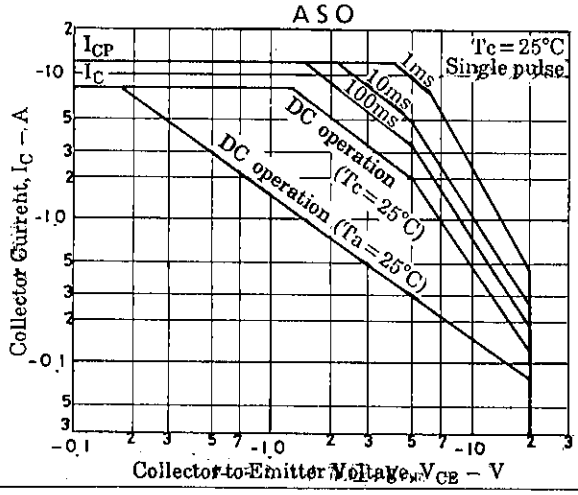
$V_{CE(sat)}$ – I_C

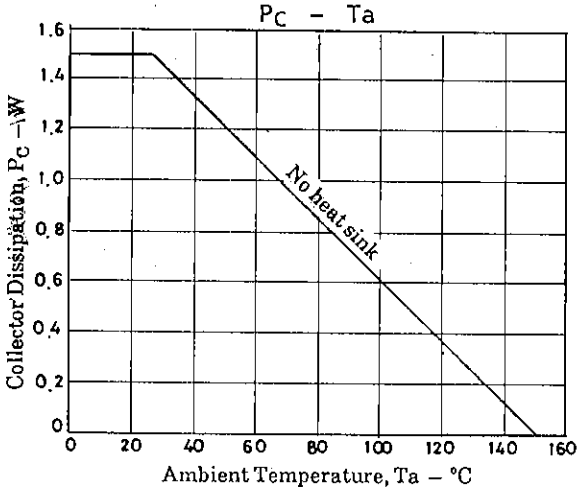


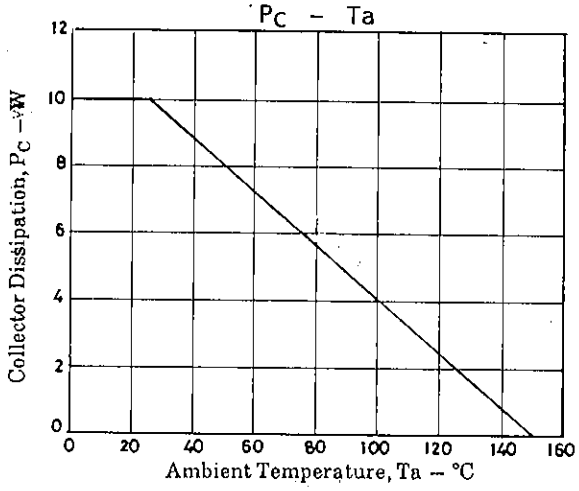
$V_{BE(sat)}$ – I_C



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