Ordering number : ENN7482

PNP Epitaxial Planar Silicon Transistors

12A02CH

Low-Frequency General-Purpose Amplifier Applications

Applications

- Low-frequency Amplifier, high-speed switching, small motor drive, muting circuit.

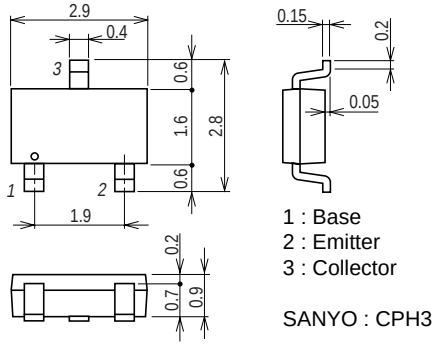
Features

- Large current capacitance.
- Low collector-to-emitter saturation voltage (resistance). R_{CE} (sat) typ.=285mΩ [I_C=1A, I_B=50mA].
- Small ON-resistance (Ron).

Package Dimensions

unit : mm
2150A

[12A02CH]



1 : Base
2 : Emitter
3 : Collector

SANYO : CPH3

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}		−12	V
Emitter-to-Base Voltage	V_{EBO}		−5	V
Collector Current	I_C		−1	A
Collector Current (Pulse)	I_{CP}		−2	A
Collector Dissipation	P_C	Mounted on a ceramic board (600mm²×0.8mm)	700	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−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			−100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}= −4V, I_C=0			−100	nA
DC Current Gain	h_{FE}	V_{CE}= −2V, I_C= −10mA	300		700	
Gain-Bandwidth Product	f_T	V_{CE}= −2V, I_C= −50mA		450		MHz

Marking : AD

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

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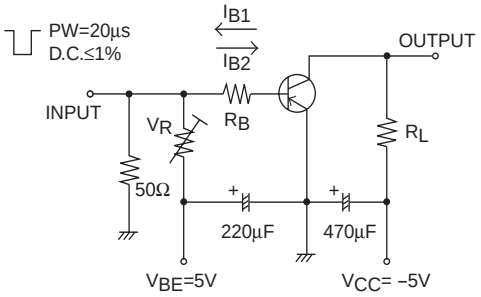
SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

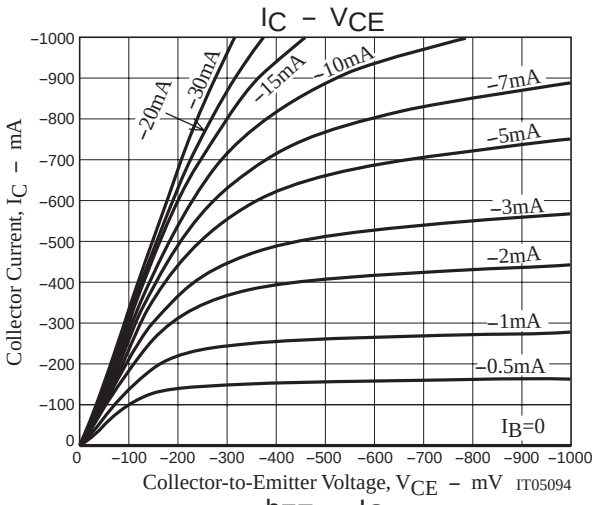
Continued from preceding page.

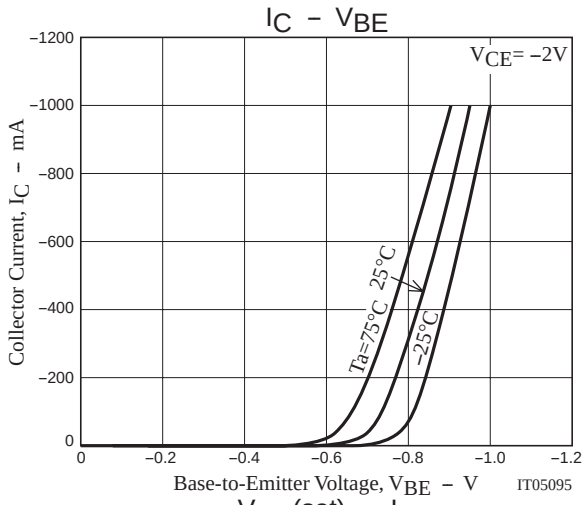
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	Cob	V_{CB}= –10V, f=1MHz		6		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C= –400mA, I_B= –20mA		–120	–240	mV
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C= –400mA, I_B= –20mA		–0.9	–1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C= –10μA, I_E=0	–15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C= –1mA, R_{BE}=∞	–12			V
Emitter-to-Base 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}	See specified Test Circuit.		75		ns
Fall Time	t_f	See specified Test Circuit.		15		ns

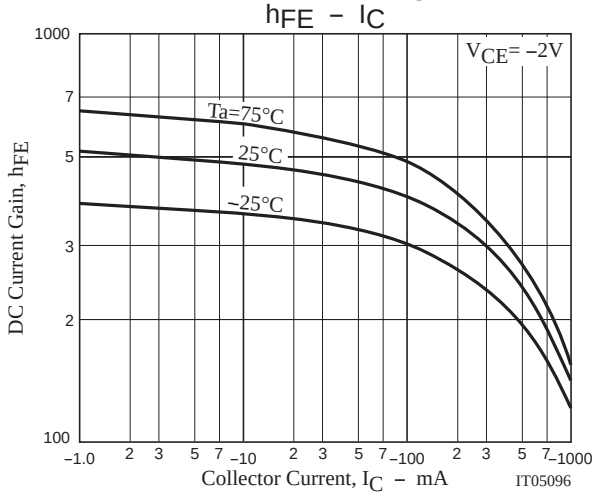
Switching Time Test Circuit

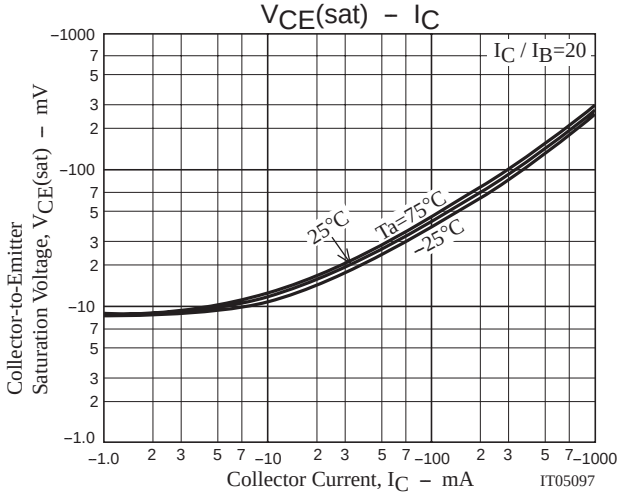


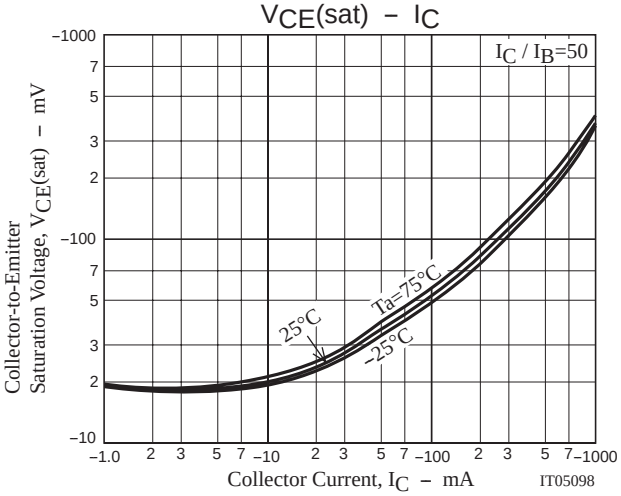
I_C=20I_{B1}= –20I_{B2}= –400mA

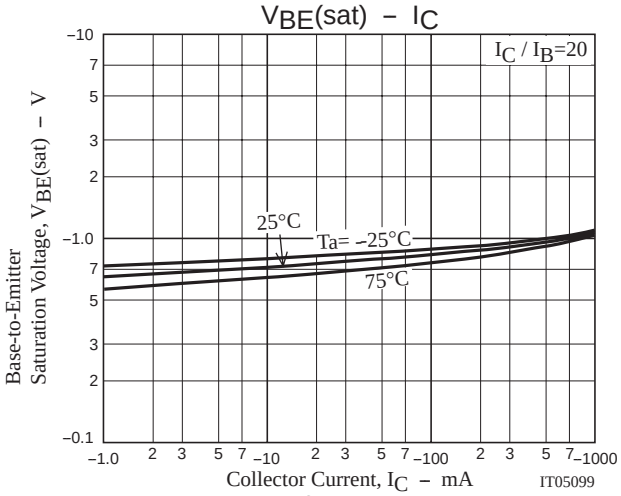


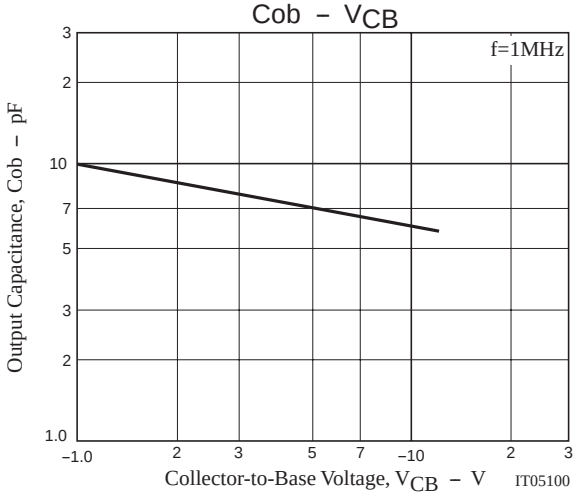


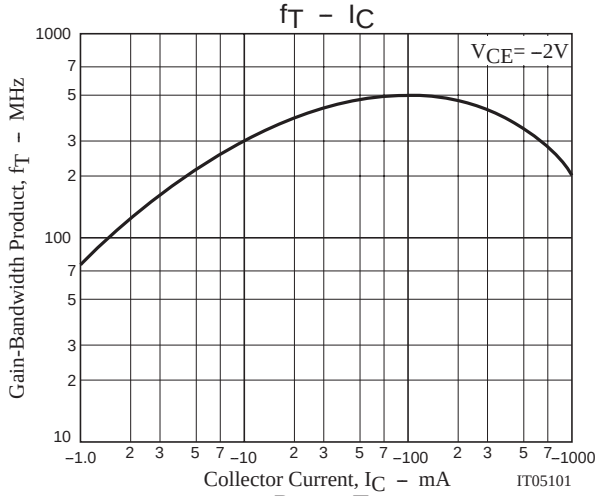


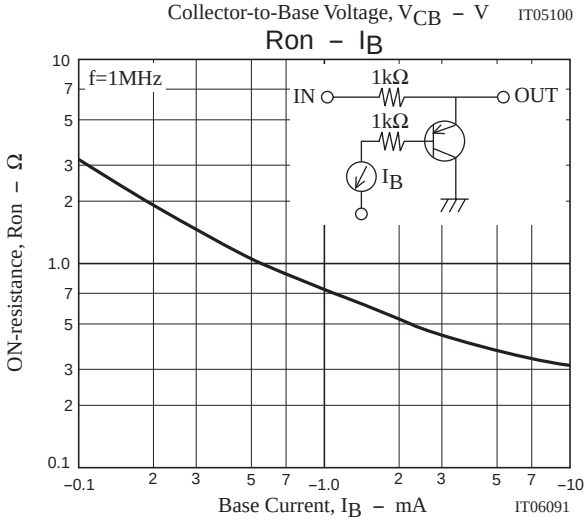


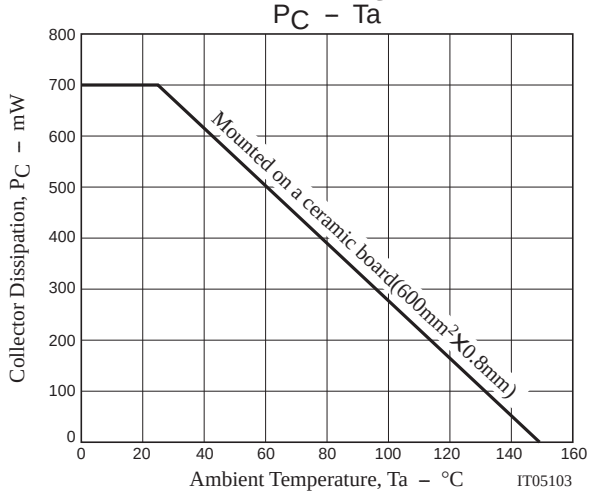

VCE(sat) – IC
IC / IB=50
Collector-to-Emitter Saturation Voltage, VCE(sat) – mV
25°C
Ta=75°C
–25°C
Collector Current, IC – mA
IT05098


VBE(sat) – IC
IC / IB=20
Base-to-Emitter Saturation Voltage, VBE(sat) – V
25°C
Ta= –25°C
75°C
Collector Current, IC – mA
IT05099


Cob – VCB
f=1MHz
Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V
IT05100


fT – IC
VCE= –2V
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – mA
IT05101


Ron – IB
f=1MHz
IN
1kΩ
1kΩ
OUT
IB
ON-resistance, Ron – Ω
Base Current, IB – mA
IT06091


PC – Ta
Mounted on a ceramic board(600mm2×0.8mm)
Collector Dissipation, PC – mW
Ambient Temperature, Ta – °C
IT05103

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