

NPN Epitaxial Planar Silicon Transistor
HIGH h_{FE} , LOW FREQUENCY,
GENERAL-PURPOSE AMP APPLICATIONS

Applications

- Low frequency general-purpose amplifiers, drivers

Features

- . Large current capacity ($I_C=2A$)
- . Adoption of MBIT process
- . High DC current gain ($h_{FE}=800$ to 3200)
- . Low collector-to-emitter saturation voltage ($V_{CE(sat)} \leq 0.5V$)
- . High V_{EBO} ($V_{EBO} \geq 15V$)

Absolute Maximum Ratings at Ta=25°C

Absolute Maximum Ratings at Ta=25°C			unit
Collector to Base Voltage	V _{CB0}	30	V
Collector to Emitter Voltage	V _{CEO}	25	V
Emitter to Base Voltage	V _{EB0}	15	V
Collector Current	I _C	2	A
Peak Collector Current	i _{cp}	4	A
Collector Dissipation	P _c	1.2	W
	Tc=25°C	15	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

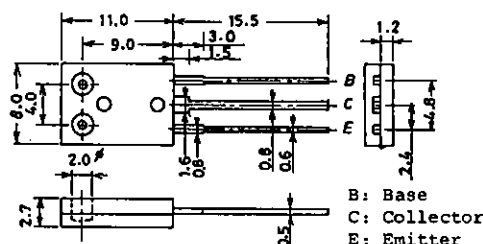
Electrical Characteristics at Ta=25°C

Electrical Characteristics at Ta=25°C			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=20V, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=10V, I_C=0$			0.1	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=5V, I_C=500mA$	800	1500	3200	
	$h_{FE}(2)$	$V_{CE}=5V, I_C=1A$	600			
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=50mA$		260		MHz
Output Capacitance	c_{ob}	$V_{CE}=10V, f_c=1MHz$		27		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1A, I_B=20mA$		0.15	0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1A, I_B=20mA$		0.85	1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	30			V

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Package Dimensions 2043A

(unit: mm)



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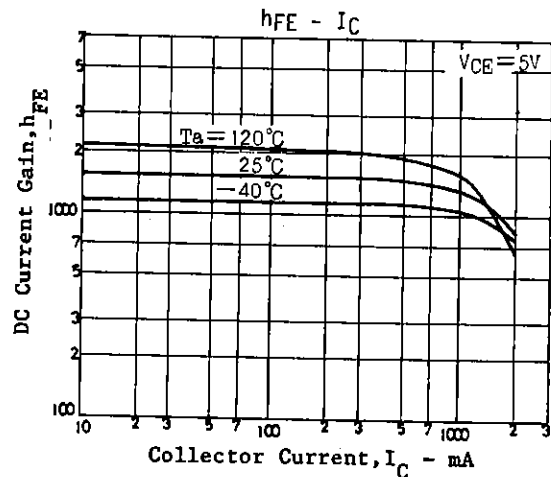
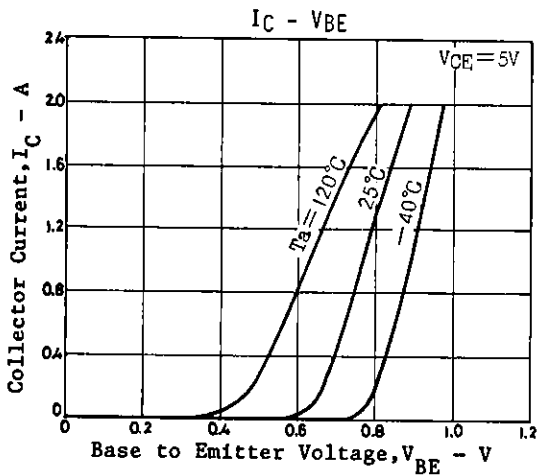
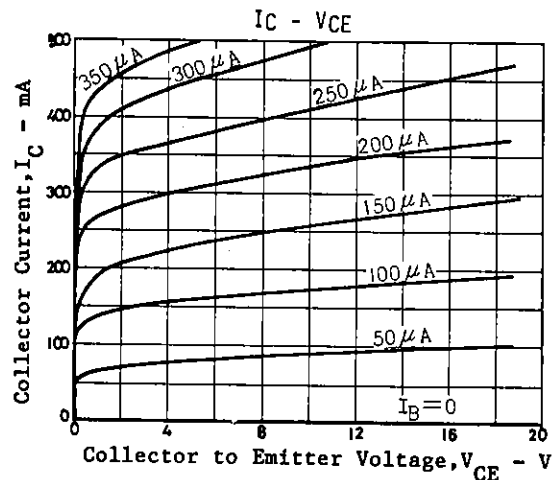
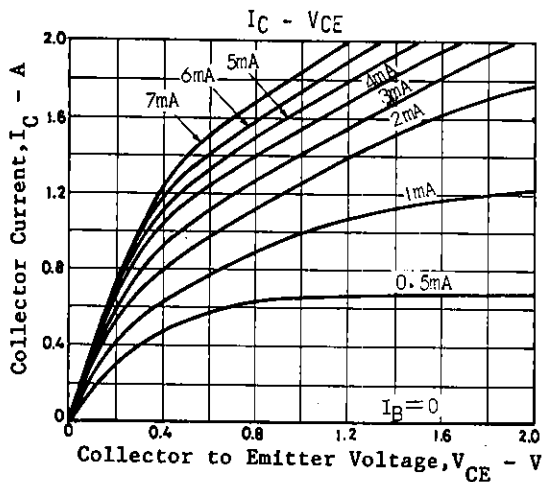
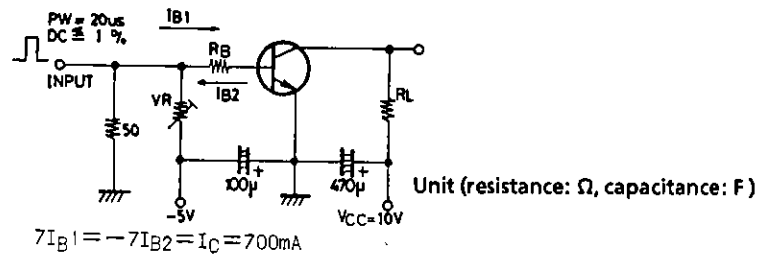
SANYO Electric Co., Ltd. Semiconductor Business Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

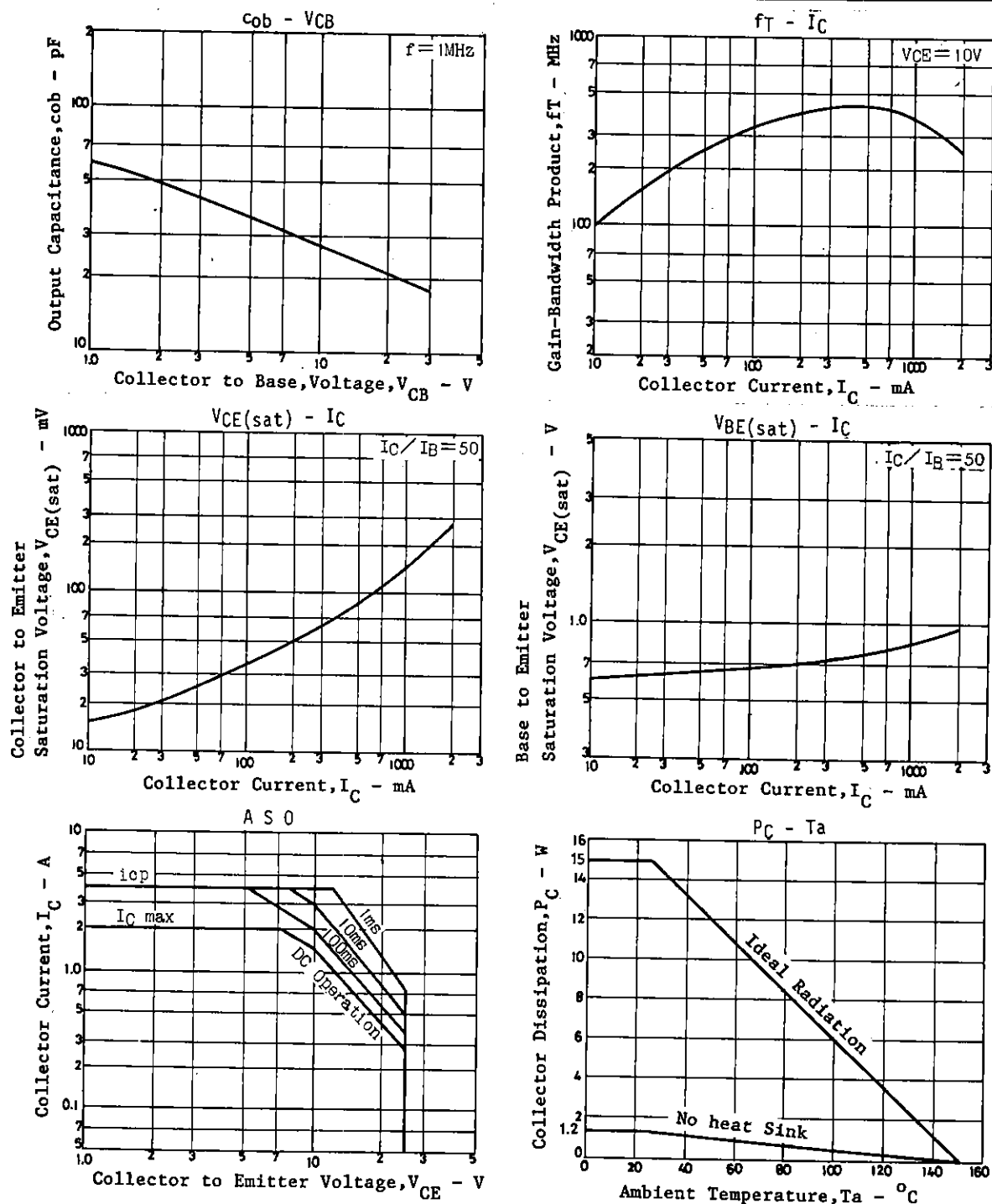
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Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	min 25	typ	max	unit V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	15			V
Turn-on time	t_{on}	See specified Test Circuit.	0.14			μs
Storage Temperature	t_{stg}	"	1.35			μs
Fall Time	t_f	"	0.1			μs

Switching Time Test Circuit





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