Ordering number: EN 3091

SANYO No.3091

2SA1702

PNP Epitaxial Planar Silicon Transistor

High-Current Switching Applications

Features

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

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	−5	A
Collector Current(Pulse)	I_{CP}	−8	A
Collector Dissipation	P_C	1	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

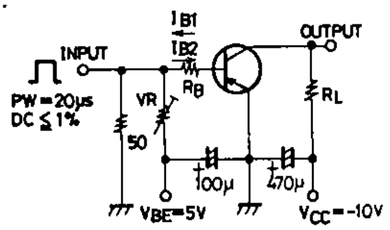
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=-20V, I_E=0$			−500	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4V, I_C=0$			−500	nA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=-2V, I_C=-500mA$	100※		400※	
	$h_{FE}(2)$	$V_{CE}=-2V, I_C=-4A$	60			
Gain-Bandwidth Product	f_T	$V_{CE}=-5V, I_C=-200mA$		320		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=-3A, I_B=-60mA$		−250	−500	mV
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=-3A, I_B=-60mA$		−1	−1.3	V
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		60		pF
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	−25			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	−20			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	−5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		40		ns
Storage Time	t_{stg}	〃		200		ns
Fall Time	t_f	〃		10		ns

※: The 2SA1702 is classified by 500mA h_{FE} as follows:

100 R 200	140 S 280	200 T 400

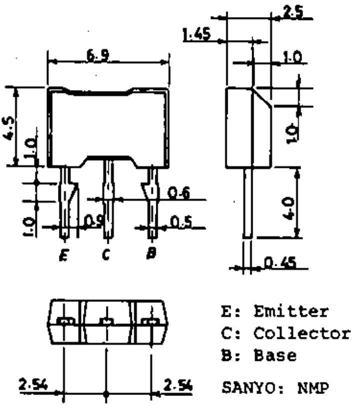
Switching Time Test Circuit



$10I_{B1}=-10I_{B2}=I_C=-2A$

Unit(Resistance : Ω, Capacitance : F)

Package Dimensions 2064
(unit: mm)



E: Emitter
C: Collector
B: Base

SANYO: NMP

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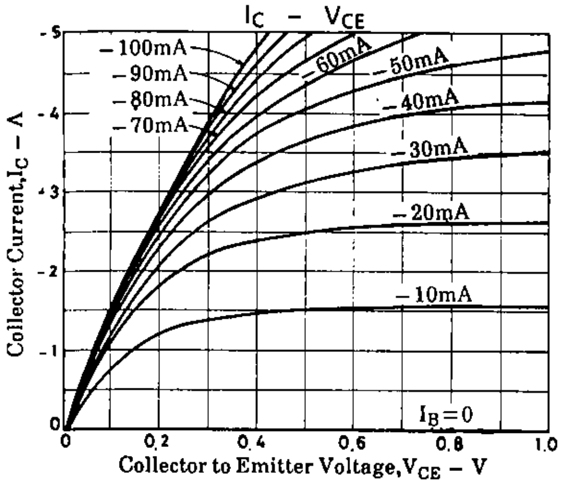
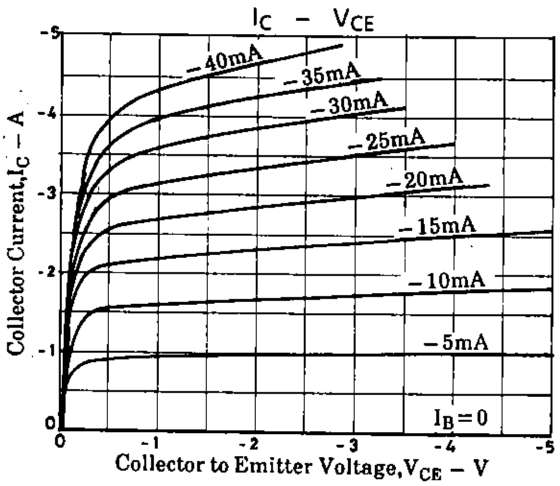
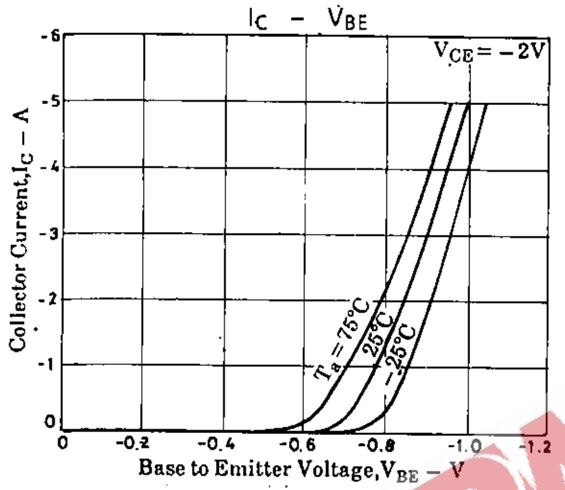


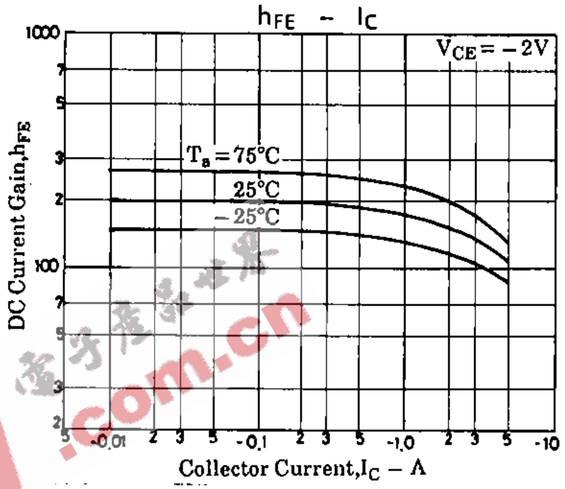
I_C – V_{CE}



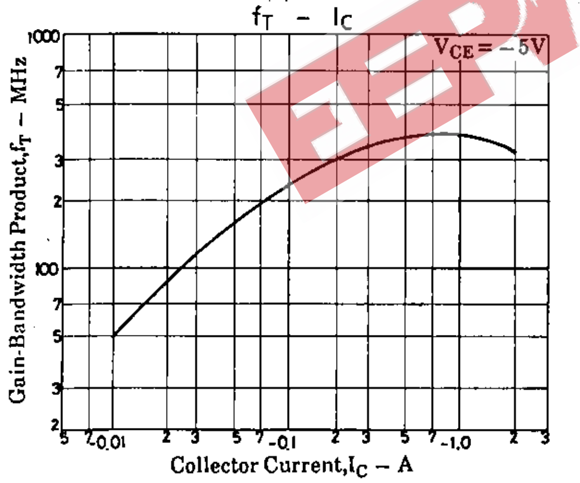
I_C – V_{CE}



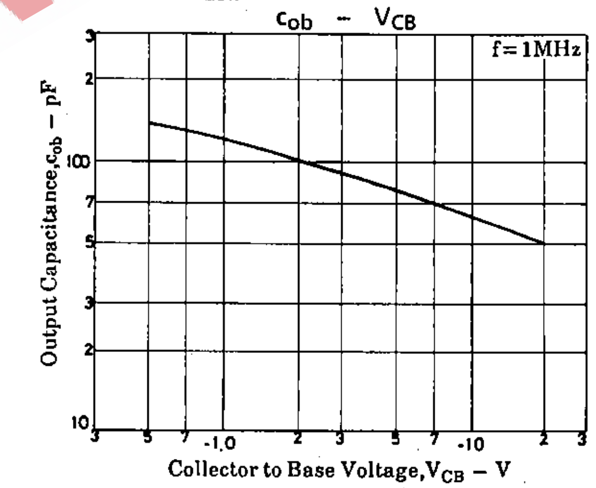
I_C – V_{BE}



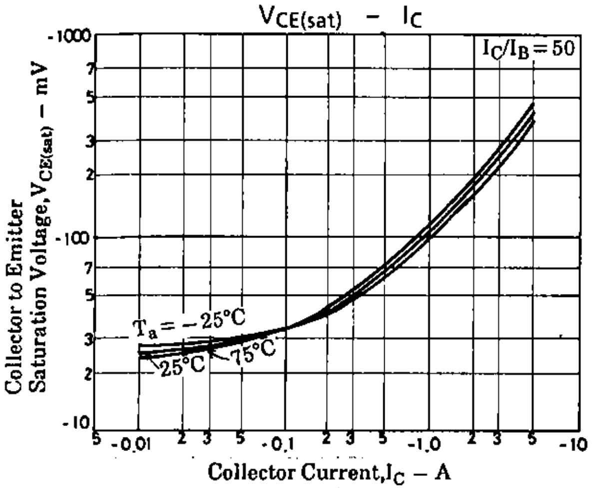
h_{FE} – I_C



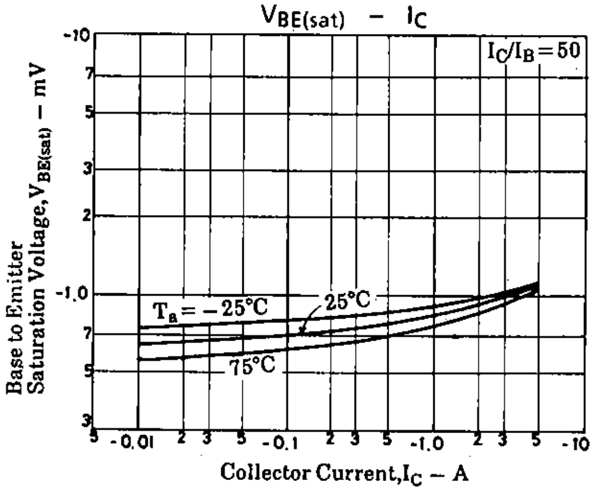
f_T – I_C



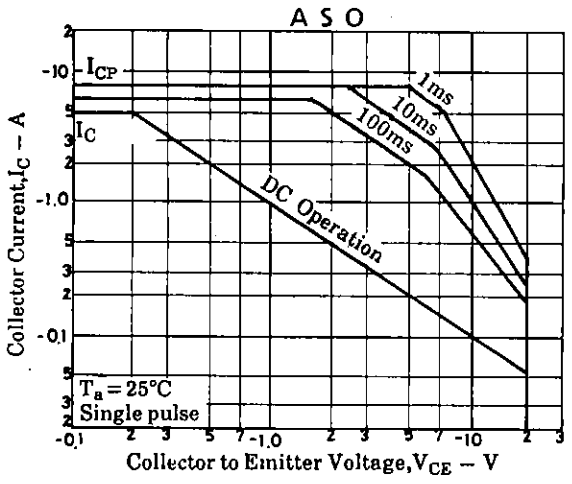
c_{ob} – V_{CB}

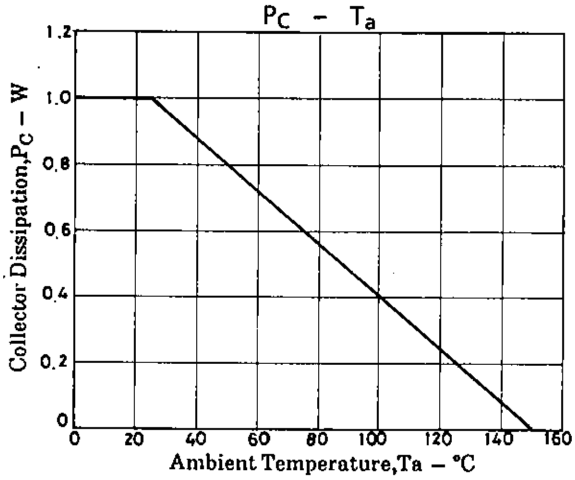


$V_{CE(sat)}$ – I_C



$V_{BE(sat)}$ – I_C





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