Ordering number: EN 1023C

SANYO

No.1023C

2SB893

PNP Epitaxial Planar Silicon Transistor

Large-Current Driving Applications

Applications

- Power supplies, relay drivers, lamp drivers, strobes

Features

- Low saturation voltage: $V_{CE(sat)} \leqq -0.45V$ ($I_C=-1.5A$, $I_B=-0.15A$)
- Large current capacity and wide ASO: $I_{Cmax}=-2.5A$

Absolute Maximum Ratings at Ta=25°C

			unit
Collector to Base Voltage	V_{CBO}	-20	V
Collector to Emitter Voltage	V_{CEO}	-10	V
Emitter to Base Voltage	V_{EBO}	-7	V
Collector Current	I_C	-2.5	A
Collector Current(Pulse)	I_{CP}	-5	A
Collector Dissipation	P_C	0.75	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

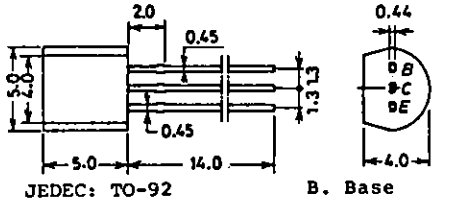
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=-20V$, $I_E=0$			-1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4V$, $I_C=0$			-1.0	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-2V$, $I_C=-500mA$	100*		560*	
	$h_{FE(2)}$	$V_{CE}=-2V$, $I_C=-3A$, pulse	70			
Gain-Bandwidth Prodcut	f_T	$V_{CE}=-10V$, $I_C=-50mA$		250		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V$, f=1MHz		70		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=-1.5A$, $I_B=-0.15A$		-0.25	-0.45	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A$, $I_E=0$	-20			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA$, $R_{BE}=\infty$	-10			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A$, $I_C=0$	-7			V

*The 2SB893 is classified by 500mA h_{FE} as follows:

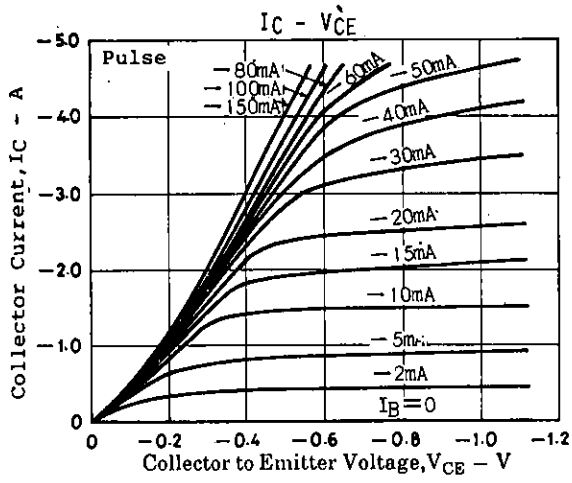
100	E	200	160	F	320	280	G	560

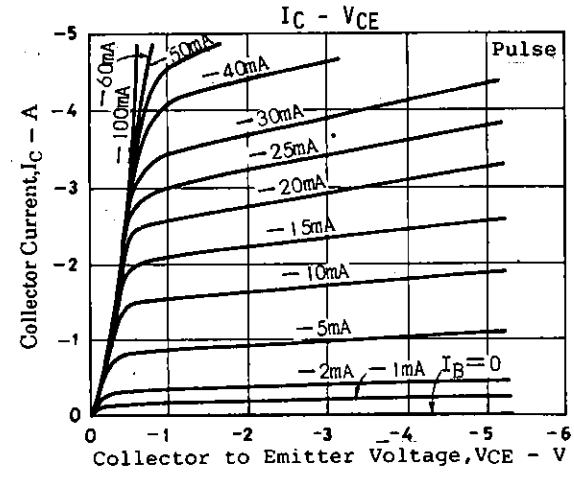
Package Dimensions 2003A
(unit: mm)

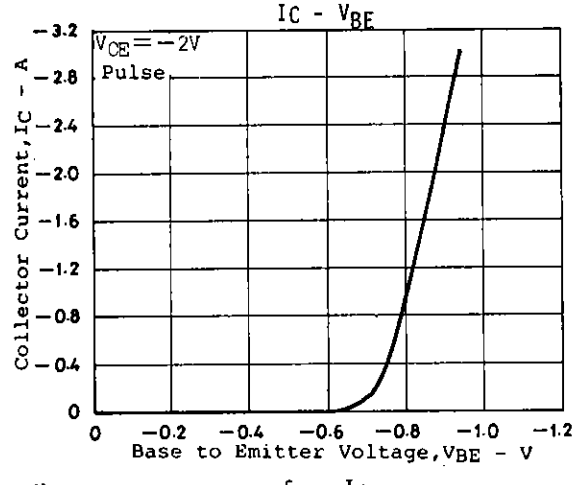


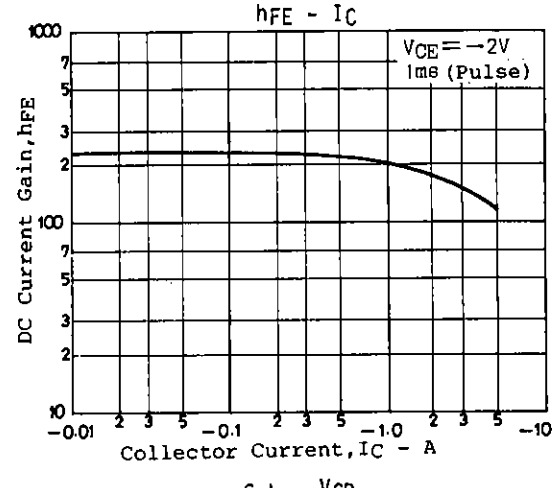
JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

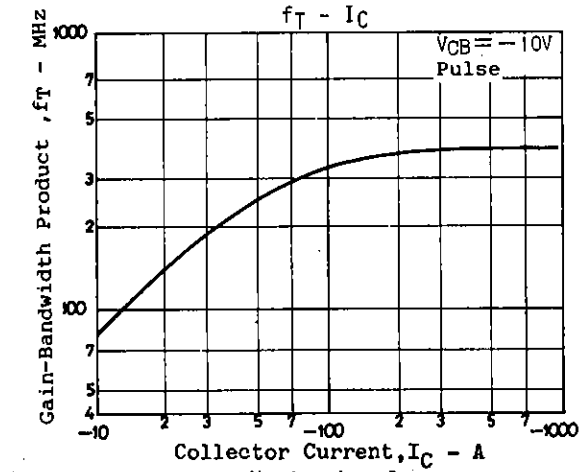
B. Base
C. Collector
E. Emitter

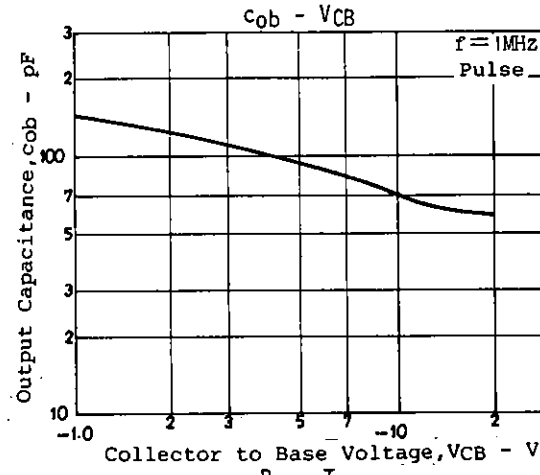

I_C - V_{CE}
Pulse
−80mA
−100mA
−150mA
−60mA
−50mA
−40mA
−30mA
−20mA
−15mA
−10mA
−5mA
−2mA
I_B=0
Collector Current, I_C - A
Collector to Emitter Voltage, V_{CE} - V

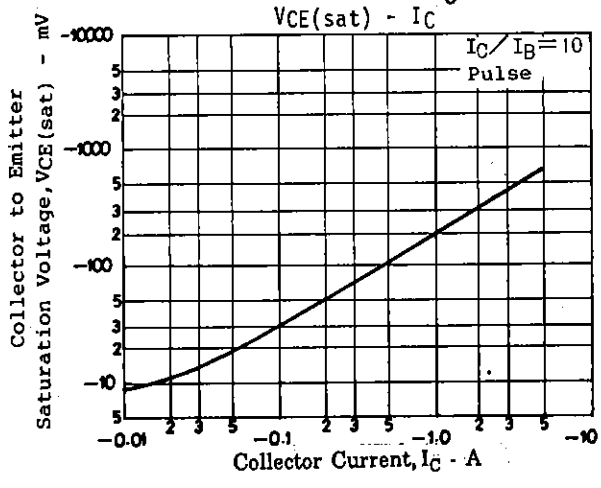

I_C - V_{CE}
Pulse
−60mA
−100mA
−50mA
−40mA
−30mA
−25mA
−20mA
−15mA
−10mA
−5mA
−2mA
−1mA
I_B=0
Collector Current, I_C - A
Collector to Emitter Voltage, V_{CE} - V

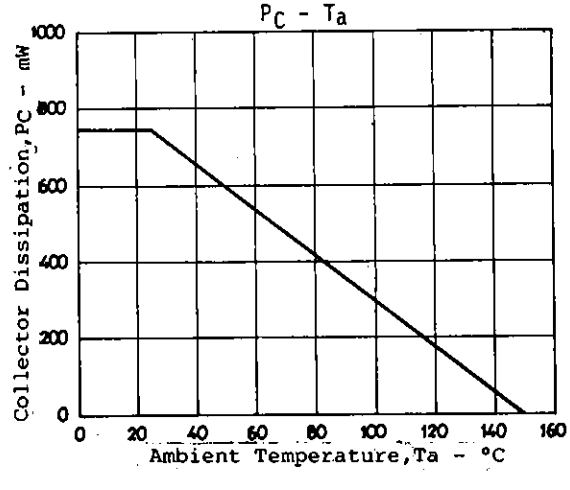

I_C - V_{BE}
V_{CE}=−2V
Pulse
Collector Current, I_C - A
Base to Emitter Voltage, V_{BE} - V


h_{FE} - I_C
V_{CE}=−2V
1ms (Pulse)
DC Current Gain, h_{FE}
Collector Current, I_C - A


f_T - I_C
V_{CB}=−10V
Pulse
Gain-Bandwidth Product, f_T - MHz
Collector Current, I_C - A


C_{ob} - V_{CB}
f=1MHz
Pulse
Output Capacitance, C_{ob} - pF
Collector to Base Voltage, V_{CB} - V


$V_{CE(sat)}$ - I_C
I_C/I_B=10
Pulse
Collector to Emitter Saturation Voltage, $V_{CE(sat)}$ - mV
Collector Current, I_C - A


P_C - Ta
Collector Dissipation, P_C - mW
Ambient Temperature, Ta - °C