



SANYO Semiconductors

DATA SHEET

2SA1590/2SC4121

PNP/NPN Epitaxial Planar Silicon Transistors
Switching Applications
(with Bias Resistance)

Applications

- Switching circuit, inverter circuit, interface circuit, driver circuit.

Features

- On-chip bias resistance ($R_1=22k\Omega, R_2=\infty$)
- Small-sized package (SPA)

(): 2SA1590

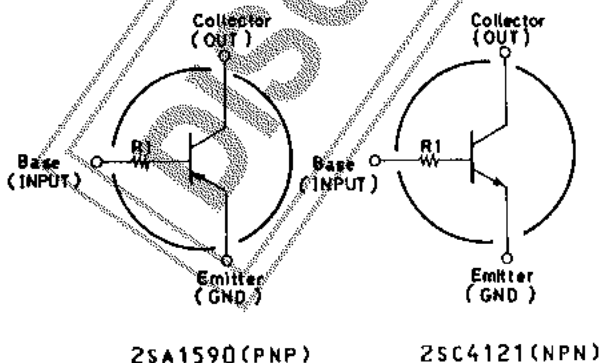
Absolute Maximum Ratings at $T_a=25^\circ C$

			unit
Collector to Base Voltage	V_{CBO}	(-)50	V
Collector to Emitter Voltage	V_{CEO}	(-)50	V
Emitter to Base Voltage	V_{EBO}	(-)5	V
Collector Current	I_C	(-)100	mA
Collector Current (Pulse)	I_{CP}	(-)200	mA
Collector Dissipation	P_C	300	mW
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

Electrical Characteristics at $T_a=25^\circ C$

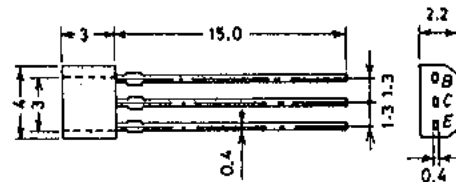
		min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)40V, I_E=0$		(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)5V, I_C=0$		(-)0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)5V, I_C=(-)10mA$	140		
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10V, I_C=(-)5mA$	250		MHz
			(200)		
Output Capacitance	c_{ob}	$V_{CB}=(-)10V, f=1MHz$	3.7		pF
			(5.5)		
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)10mA, I_B=(-)0.5mA$	(-)0.1	(-)0.3	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)50		V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)100\mu A, R_{BE}=\infty$	(-)50		V
Input OFF-State Voltage	$V_{I(off)}$	$V_{CE}=(-)5V, I_C=(-)100\mu A$	(-)0.4	0.55(-)0.8	V
Input ON-State Voltage	$V_{I(on)}$	$V_{CE}=(-)0.2V, I_C=10mA$	(-)0.8	(-)2.0(-)0.4	V
Input Resistance	R_1		15	22	29
					k Ω

Electrical Connection



Case Outline 2033

(unit:mm)



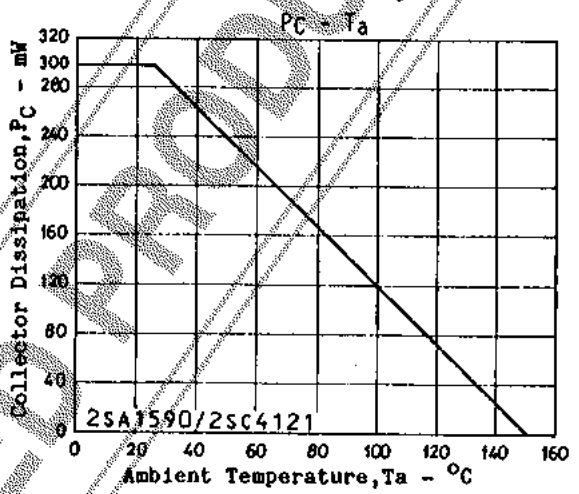
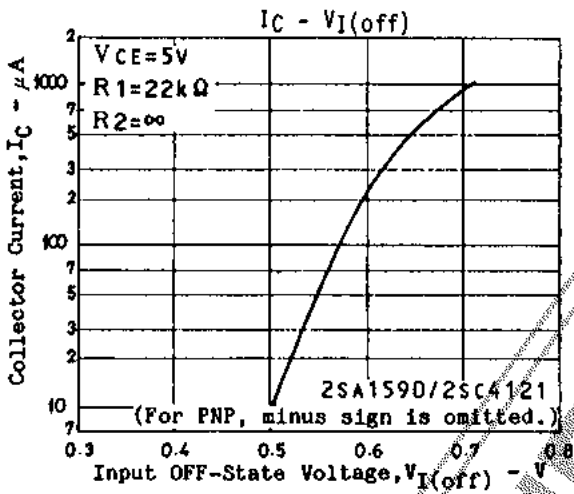
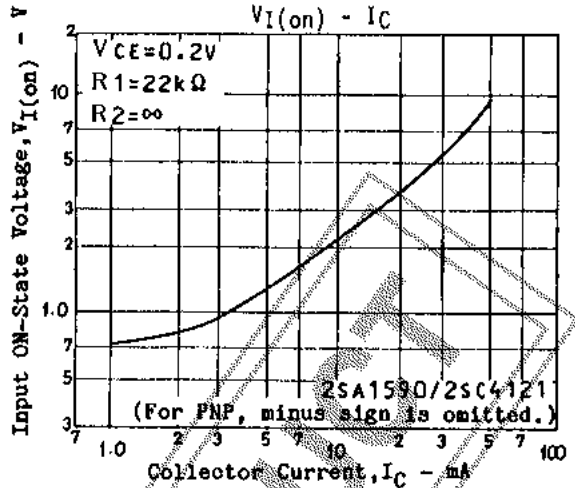
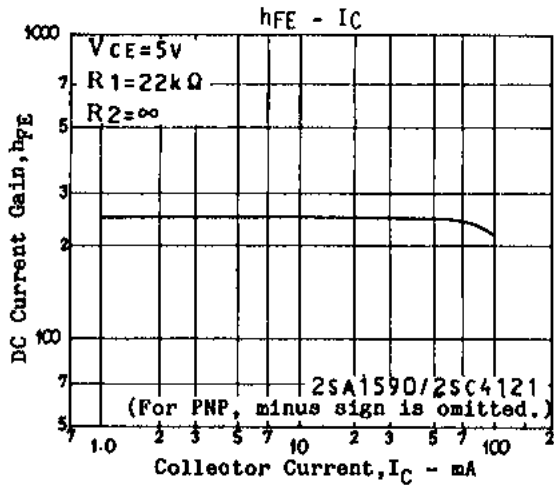
B: Base
C: Collector
E: Emitter
SANYO: SPA

Specifications and information herein are subject to change without notice.

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