



SANYO Semiconductors

DATA SHEET

2SA1346/2SC3400

PNP/NPN Epitaxial Planar Silicon Transistors

Switching Applications
(with Bias Resistance)

Applications

Switching circuit, inverter, interface circuit, driver

Features

- Built-in bias resistor ($R_1=22k\Omega$, $R_2=22k\Omega$).
- Small-sized package (SPA).

(): 2SA1346

Absolute Maximum Ratings/ $T_a=25^\circ\text{C}$

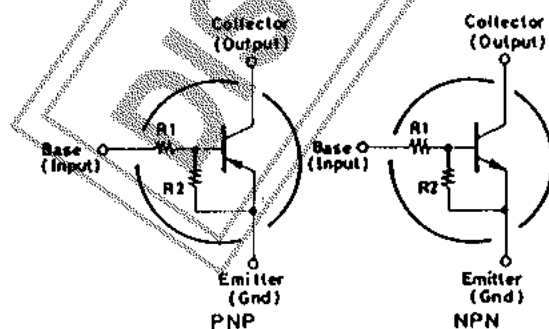
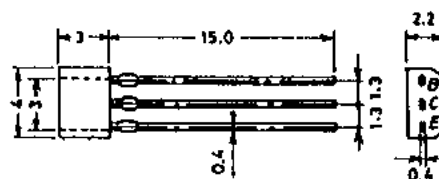
Collector to Base Voltage	V_{CB0}	(-)-50	V
Collector to Emitter Voltage	V_{CEO}	(-)-50	V
Emitter to Base Voltage	V_{EBO}	(-)-10	V
Collector Current	I_C	(-)-100	mA
Collector Current(Pulse)	I_{CP}	(-)-200	mA
Collector Dissipation	P_C	300	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics/ $T_a=25^\circ\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)40\text{V}$, $I_E=0$			(-)-0.1	μA
Collector Cutoff Current	I_{CEO}	$V_{CE}=(-)40\text{V}$, $I_B=0$			(-)-0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)5\text{V}$, $I_C=0$	(-)-70	(-)-113	(-)-150	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)5\text{V}$, $I_C=(-)5\text{mA}$	50			
Gain-bandwidth product	f_T	$V_{CE}=(-)10\text{V}$, $I_C=(-)5\text{mA}$		250 (200)		MHz
Output Capacitance	c_{ob}	$V_{CB}=(-)10\text{V}$, $f=1\text{MHz}$		3.7 (5.5)		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)10\text{mA}$, $I_B=(-)0.5\text{mA}$		(-)-0.1	(-)-0.3	V

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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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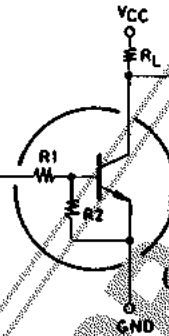
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			min	typ	max	unit
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	$(-)50$			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)100\mu A, R_{BE} = \infty$	$(-)50$			V
Input Off Voltage	$V_{I(off)}$	$V_{CE} = (-)5V, I_C = (-)100\mu A$	$(-)0.8$	$(-)1.1$	$(-)1.5$	V
Input On Voltage	$V_{I(on)}$	$V_{CE} = (-)0.2V, I_C = (-)5mA$	$(-)1.0$	$(-)1.9$	$(-)3.0$	V
Input Resistance	R_1		15	22	29	k Ω
Input Resistance Ratio	R_1/R_2		0.9	1.0	1.1	—

Sample Application Circuit

Input ON-state voltage: 3V or more

Input OFF-state voltage: 0.8V or less



(For PNP, the polarity is reversed.)

