



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/ $T_a=25^\circ C$

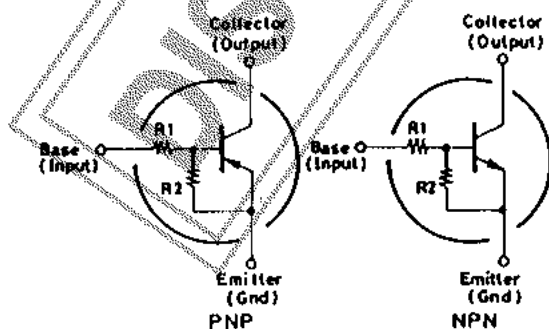
			unit
Collector to Base Voltage	V_{CB0}	(-)50	V
Collector to Emitter Voltage	V_{CEO}	(-)50	V
Emitter to Base Voltage	V_{EBO}	(-)10	V
Collector Current	I_C	(-)100	mA
Collector Current(Pulse)	I_{CP}	(-)200	mA
Collector Dissipation	P_C	300	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}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

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

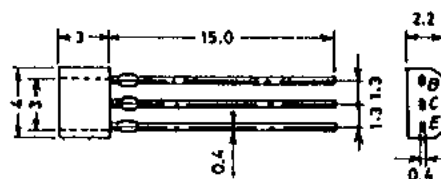
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)40V, I_E=0$			(-)0.1	μA
Collector Cutoff Current	I_{CEO}	$V_{CE}=(-)40V, I_B=0$			(-)0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)5V, I_C=0$	(-)70	(-)113	(-)150	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)5V, I_C=(-)5mA$	50			
Gain-bandwidth product	f_T	$V_{CE}=(-)10V, I_C=(-)5mA$		250 (200)		MHz
Output Capacitance	c_{ob}	$V_{CB}=(-)10V, f=1MHz$		3.7 (5.5)		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)10mA, I_B=(-)0.5mA$	(-)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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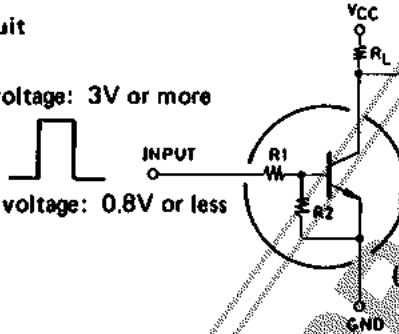
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			min	typ	max	unit
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-)50			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)100\mu A, R_{BE} = \infty$	(-)50			V
Input Off Voltage	$V_{I(off)}$	$V_{CE} = (-)5V, I_C = (-)100\mu A$	(-)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.)

