



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/ $T_a=25^\circ C$

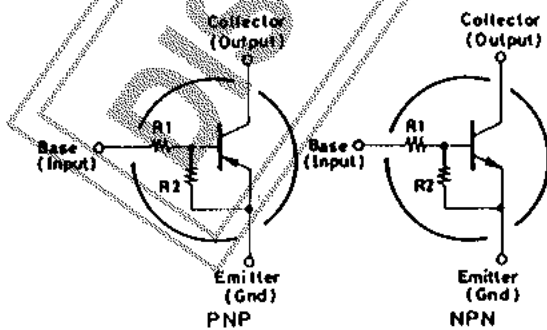
			unit
Collector to Base Voltage	$V_{CB0}$	(-)50	V
Collector to Emitter Voltage	$V_{CEO}$	(-)50	V
Emitter to Base Voltage	$V_{EBO}$	(-)10	V
Collector Current	$I_C$	(-)100	mA
Collector Current(Pulse)	$I_{CP}$	(-)200	mA
Collector Dissipation	$P_C$	300	mW
Junction Temperature	$T_j$	150	$^\circ C$
Storage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

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

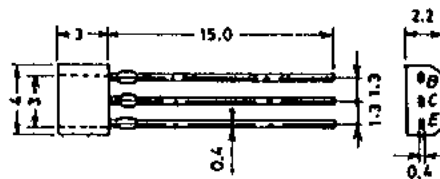
			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)40V, I_E = 0$			(-)0.1	$\mu A$
Collector Cutoff Current	$I_{CEO}$	$V_{CE} = (-)40V, I_B = 0$			(-)0.5	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)5V, I_C = 0$	(-)70	(-)113	(-)150	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE} = (-)5V, I_C = (-)5mA$	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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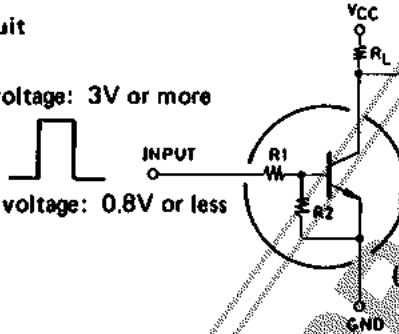
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			min	typ	max	unit
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-)50			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)100\mu A, R_{BE} = \infty$	(-)50			V
Input Off Voltage	$V_{I(off)}$	$V_{CE} = (-)5V, I_C = (-)100\mu A$	(-)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 $\Omega$
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.)

