Ordering number : EN 1290C

SANYO Semiconductors

DATA SHEET

PNP/NPN Epitaxial Planar Silicon Transistors

2SA1348/2SC3402 — Switching Applications (with Bias Resistance)

Applications

Switching circuit, inverter, interface circuit, driver

Features

- Built-in bias resistor (R_1=10kΩ, R_2=10kΩ).
- Small-sized package (SPA).

( ): 2SA1348

Absolute Maximum Ratings/T_a=25°C

			unit
Collector to Base Voltage	V_{CBO}	(−)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	°C
Storage Temperature	T_{stg}	−55 to +150	°C

Electrical Characteristics/T_a=25°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	(−)170	(−)250	(−)330	μA
DC Current Gain	h_{FE}	V_{CE}=(−)5V, I_C=(−)10mA	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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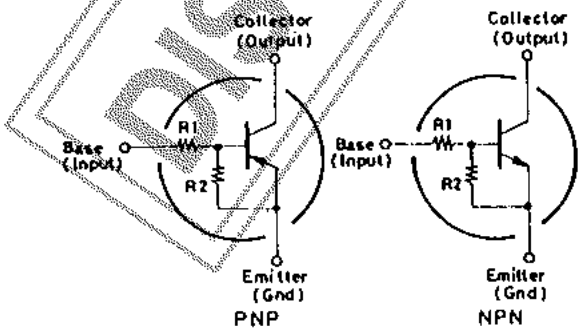
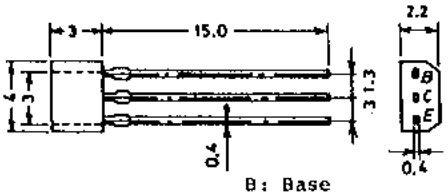
Electrical Connection



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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			min	typ	max	unit
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(−)10μA, I_E=0	(−)50			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(−)100μA, R_{BE}=∞	(−)50			V
Input Off Voltage	$V_{I(off)}$	V_{CE}=(−)5V, I_C=(−)100μA	(−)0.8	(−)1.1	(−)1.5	V
Input On Voltage	$V_{I(on)}$	V_{CE}=(−)0.2V, I_C=(−)10mA	(−)1.0	(−)2.0	(−)4.0	V
Input Resistance	R_1		7.0	10	13	kΩ
Input Resistance Ratio	R_1/R_2		0.9	1.0	1.1	—

■ **Sample Application Circuit**