Ordering number: EN 1682A

SANYO

No.1682A

2SA1420/2SC3653

PNP/NPN Epitaxial Planar Silicon Transistors

Switching Applications (with Bias Resistor)

Use

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

Features

. With bias resistor (R1=47kΩ ,R2=47kΩ).

( ): 2SA1420

Absolute Maximum Ratings at Ta=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	400	mW
Junction Temperature	T_j	150	°C
Storage Temperature	Tstg	-55 to +150	°C

Electrical Characteristics at Ta=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	(-)30	(-)53	(-)80	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=(-)5mA,I_B=(-)0.25mA		(-)0.1	(-)0.3	V
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

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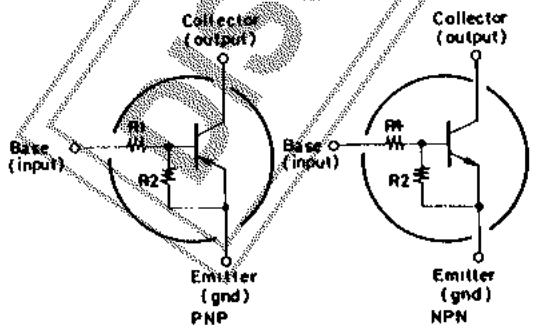
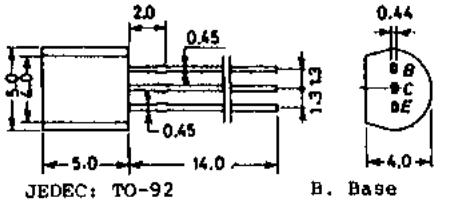
Electrical Connection



Case Outline 2003A
(unit:mm)



JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

B. Base
C. Collector
E. Emitter

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Continued from preceding page.

			min	typ	max	unit
Input OFF-State Voltage	$V_{I(off)}$	V_{CE}=(-)5V, I_C=(-)100μA	(-)0.8	(-)1.1	(-)1.5	V
Input ON-State Voltage	$V_{I(on)}$	V_{CE}=(-)0.2V, I_C=(-)5mA	(-)1.0	(-)2.5	(-)5.0	V
Input Resistance	R1		32	47	62	kΩ
Resistance Ratio	R1/R2		0.9	1.0	1.1	-

Sample Application Circuit