



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

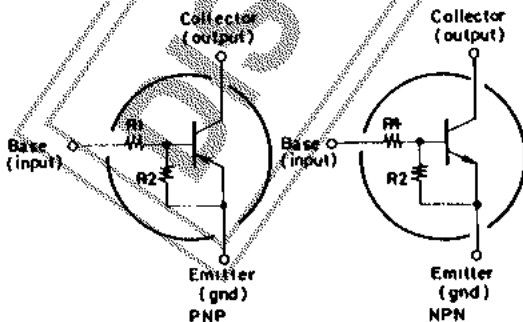
			unit
Collector to Base Voltage	V _{CB0}	(-)50	V
Collector to Emitter Voltage	V _{CE0}	(-)50	V
Emitter to Base Voltage	V _{EBO}	(-)10	V
Collector Current	I _C	(-)100	mA
Collector Current(Pulse)	I _{CP}	(-)200	mA
Collector Dissipation	P _C	400	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

Electrical Characteristics at Ta=25°C

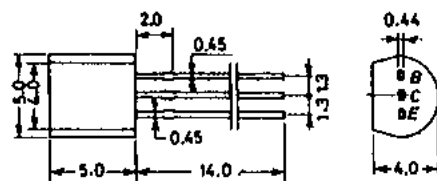
			min	typ	max	unit
Collector Cutoff Current	I _{CB0}	V _{CB} =(-)40V, I _E =0			(-)0.1	μA
Collector Cutoff Current	I _{CE0}	V _{CE} =(-)40V, I _B =0			(-)0.5	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)5V, I _C =0	(-)30	(-)53	(-)80	μA
DC Current Gain	h _{FE}	V _{CE} =(-)5V, I _C =(-)5mA	50			
Gain-Bandwidth Product	f _T	V _{CE} =(-)10V, I _C =(-)5mA		250		MHz
				(200)		
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		3.7		pF
				(5.5)		
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)CB0}	I _C =(-)10μA, I _E =0	(-)50			V
Collector to Emitter Breakdown Voltage	V _{(BR)CE0}	I _C =(-)100μA, R _{BE} =∞	(-)50			V

Continued on next page.

Electrical Connection



Case Outline 2003A
(unit:mm)



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

B. Base
C. Collector
E. Emitter

Specifications and information herein are subject to change without notice.

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			min	typ	max	unit
Input OFF-State Voltage	$V_{I(off)}$	$V_{CE}=(-)5V, I_C=(-)100\mu A$	-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	k Ω
Resistance Ratio	R1/R2		0.9	1.0	1.1	-

Sample Application Circuit

