

**SANYO**

No.1685A

**2SA1423/2SC3656**

PNP/NPN Epitaxial Planar Silicon Transistors

**Switching Applications**  
(with Bias Resistor)**Use**

- Switching circuit, inverter circuit, interface circuit, driver circuit

**Features**

- With bias resistor ( $R_1=10k\Omega$ ,  $R_2=10k\Omega$ ).

( ): 2SA1423

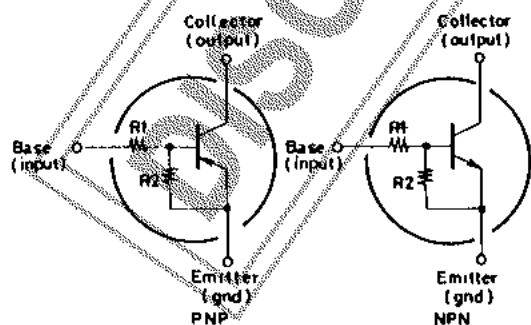
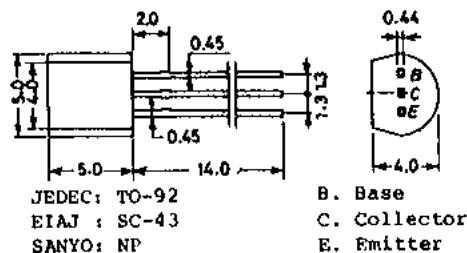
**Absolute Maximum Ratings at  $T_a=25^\circ\text{C}$** 

			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	$P_C$	400	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics at  $T_a=25^\circ\text{C}$** 

		min	typ	max	unit
Collector Cutoff Current	$I_{CB0}$	$V_{CB}=(-)40\text{V}, I_E=0$	(-)0.1		$\mu\text{A}$
Collector Cutoff Current	$I_{CEO}$	$V_{CE}=(-)40\text{V}, I_B=0$	(-)0.5		$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)5\text{V}, I_C=0$	(-)170(-)250(-)330		$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=(-)5\text{V}, I_C=(-)10\text{mA}$	50		
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10\text{V}, I_C=(-)5\text{mA}$	250		MHz
			(200)		
Output Capacitance	$C_{ob}$	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$	3.7		pF
			(5.5)		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)10\text{mA}, I_B=(-)0.5\text{mA}$	(-)0.1(-)0.3		V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}, I_E=0$	(-)50		V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)100\mu\text{A}, R_{BE}=\infty$	(-)50		V

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**Electrical Connection****Case Outline 2003A**  
(unit:mm)

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	$V_{I(on)}$	$V_{CE}=(-)0.2V, I_C=(-)10mA$	$-1.0$	$(-)2.0$	$(-)4.0$	V
Input Resistance	$R_1$		7.0	10	13	k $\Omega$
Resistance Ratio	$R_1/R_2$		0.9	1.0	1.1	-

## Sample Application Circuit

