



No.2381

2SA1564/2SC4048

PNP/NPN Epitaxial Planar Silicon Transistors

Switching Applications
(with Bias Resistance)

Applications

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

Features

- . On-chip bias resistance: $R_1=10k\Omega, R_2=47k\Omega$
- . Small-sized package: SPA

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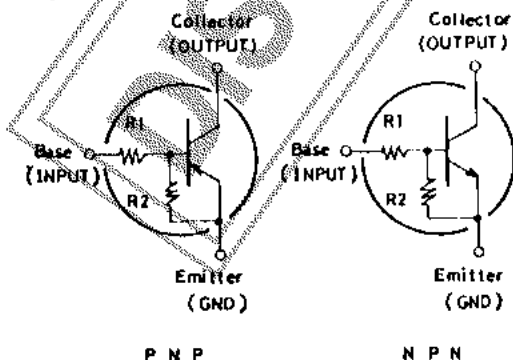
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

			unit
Collector to Base Voltage	V_{CB0}	(-)50	V
Collector to Emitter Voltage	V_{CE0}	(-)50	V
Emitter to Base Voltage	V_{EB0}	(-)6	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	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

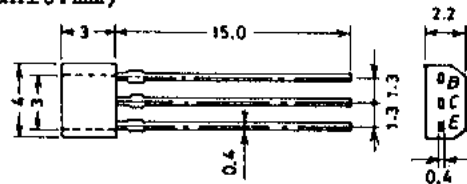
			min	typ	max	unit
Collector Cutoff Current	I_{CB0}	$V_{CB}=(-)40\text{V}, I_E=0$			(-)0.1	μA
Collector Cutoff Current	I_{CE0}	$V_{CE}=(-)40\text{V}, I_B=0$			(-)0.5	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=(-)5\text{V}, I_C=0$	(-)67	(-)88	(-)125	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)5\text{V}, I_C=(-)5\text{mA}$	70			
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)		
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)10\text{mA}, I_B=(-)0.5\text{mA}$	(-)0.1		(-)0.3	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}, I_E=0$	(-)50			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)100\mu\text{A}, R_{BE}=\infty$	(-)50			V
Input OFF-State Voltage	$V_{I(off)}$	$V_{CB}=(-)5\text{V}, I_C=(-)100\mu\text{A}$	(-)0.5	(-)0.7	(-)0.9	V
Input ON-State Voltage	$V_{I(on)}$	$V_{CE}=(-)0.2\text{V}, I_C=(-)5\text{mA}$	(-)0.7	(-)1.0	(-)2.0	V
Input Resistance	R_1		7	10	13	$k\Omega$
Resistance Ratio	R_1/R_2		0.193	0.213	0.234	

Electrical Connection



Case Outline 2033

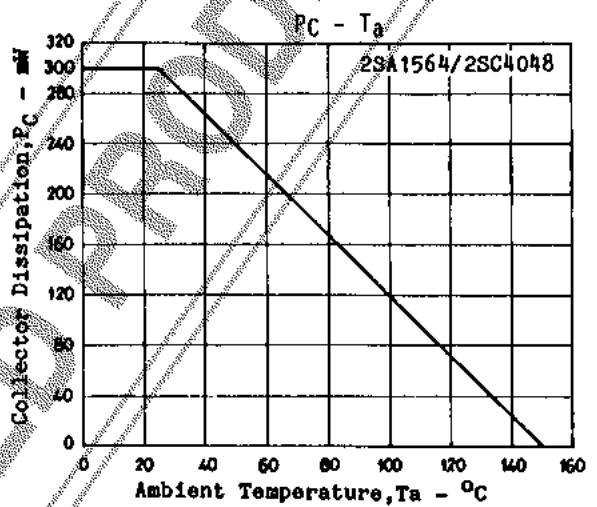
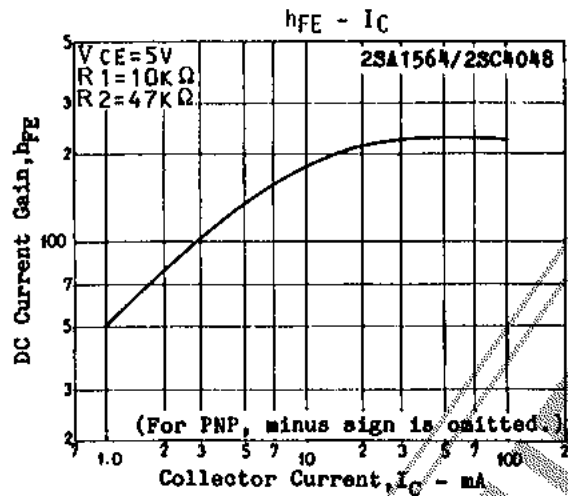
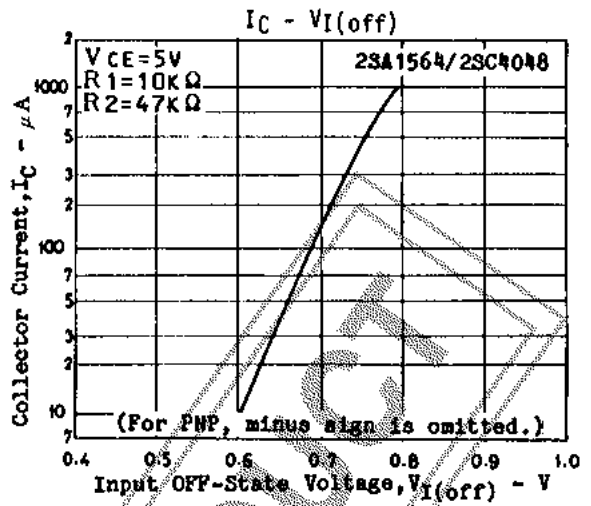
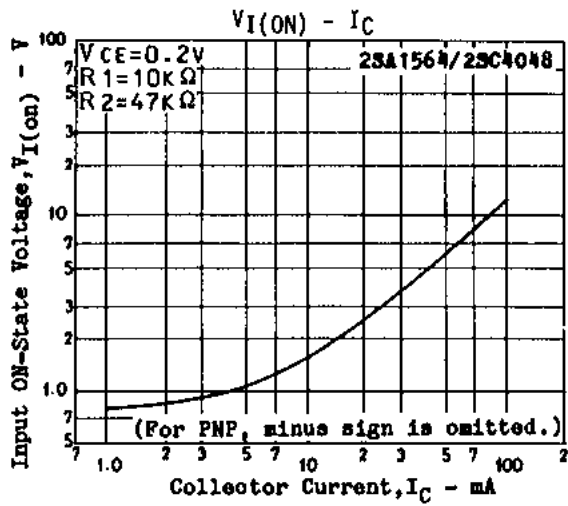
(unit:mm)



B: Base
C: Collector
E: Emitter
SANYO: SPA

Specifications and information herein are subject to change without notice.

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DISCONTINUED PRODUCT