



SANYO Semiconductors

DATA SHEET

2SA1503/2SC3864

PNP/NPN Epitaxial Planar Silicon Transistors

Switching Applications
(with Bias Resistance)

Applications

- Switching circuits, inverter circuits, interface circuits, driver circuits

Features

- On-chip bias resistance: R1=2.2kΩ , R2=10kΩ
- Small-sized package: SPA

() : 2SA1503

Absolute Maximum Ratings at Ta=25°C

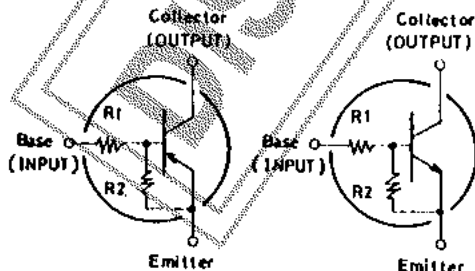
		unit
Collector to Base Voltage	V_{CB0}	(-)50 V
Collector to Emitter Voltage	V_{CEO}	(-)50 V
Emitter to Base Voltage	V_{EBO}	(-)6 V
Collector Current	I_C	(-)100 mA
Collector Current (Pulse)	I_{CP}	(-)200 mA
Collector Dissipation	P_C	300 mW
Junction Temperature	T_J	150 °C
Storage Temperature	T_{stg}	-55 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_{CEO} $V_{CE} = (-)40V, I_B = 0$			(-)0.5	μA
Emitter Cutoff Current	I_{EBO} $V_{EB} = (-)5V, I_C = 0$	(-)315	(-)410	(-)590	
DC Current Gain	h_{FE} $V_{CE} = (-)5V, I_C = (-)10mA$	50			
Gain-Bandwidth Product	f_T $V_{CE} = (-)10V, I_C = (-)5mA$		250		MHz
			(200)		MHz
Output Capacitance	c_{ob} $V_{CB} = (-)10V, f = 1MHz$		3.7		pF
			(5.5)		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$ $I_C = (+)10mA, I_B = (-)0.5mA$	(-)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

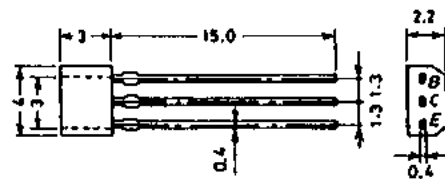
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Electrical Connection



2SA1503 (PNP) (GND) 2SC3864 (NPN) (GND)

Case Outline 2033
(unit:mm)



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

Specifications and information herein are subject to change without notice.

SANYO Electric Co.,Ltd. Semiconductor Company

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

2SA1503/2SC3864

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			min	typ	max	unit
Input OFF Voltage	$V_{I(off)}$	$V_{CE} = (-)5V, I_C = (-)100\mu A$	$(-)0.5$	$(-)0.7$	$(-)0.9$	V
Input ON Voltage	$V_{I(on)}$	$V_{CE} = (-)0.2V, I_C = (-)10mA$	$(-)0.7$	$(-)1.0$	$(-)1.8$	V
Input Resistance	R_I		1.5	2.2	2.9	k Ω
Resistance Ratio	$R1/R2$		0.198	0.22	0.242	

