

**SANYO**

No.2149A

**2SA1525/2SC3919**

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:  $R_1=2.2k\Omega$ ,  $R_2=2.2k\Omega$
- Small-sized package: SPA
- Large current capacity:  $I_C=500mA$

( ): 2SA1525

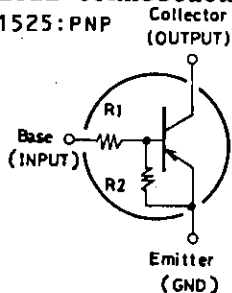
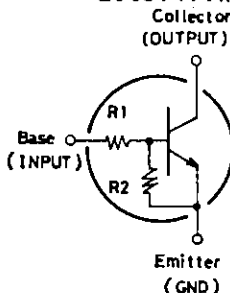
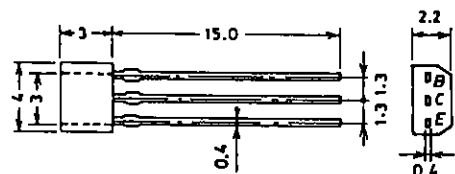
Absolute Maximum Ratings at  $T_a=25^\circ C$ 

			unit
Collector to Base Voltage	$V_{CBO}$	(-)50	V
Collector to Emitter Voltage	$V_{CEO}$	(-)50	V
Emitter to Base Voltage	$V_{EBO}$	(-)6	V
Collector Current	$I_C$	(-)500	mA
Collector Current (Pulse)	$I_{CP}$	(-)800	mA
Collector Dissipation	$P_C$	300	mW
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ C$

Electrical Characteristics at  $T_a=25^\circ C$ 

Electrical Characteristics at Ta=25°C		min	typ	max	unit	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=(-)40V, I_E=0$		(-)0.1	$\mu A$	
	$I_{CEO}$	$V_{CE}=(-)40V, I_B=0$		(-)0.5	$\mu A$	
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)5V, I_C=0$	(-)860	(-)1140	(-)1670	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=(-)5V, I_C=(-)50mA$	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	$V_{CE(sat)}$	$V_{CB}=(-)50mA, I_B=(-)2.5mA$		(-)0.1	(-)0.3	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)50			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)100\mu A, R_{BE}=\infty$	(-)50			V

Continued on next page.

Electrical Connection  
2SA1525: PNP2SC3919: NPN  
Collector (OUTPUT)Package Dimensions  
(unit: mm) 2033

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

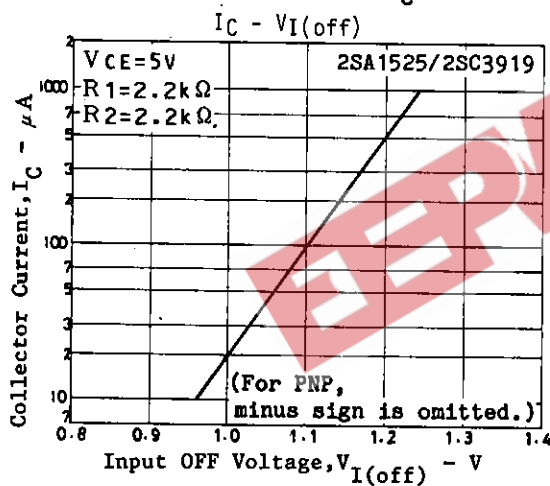
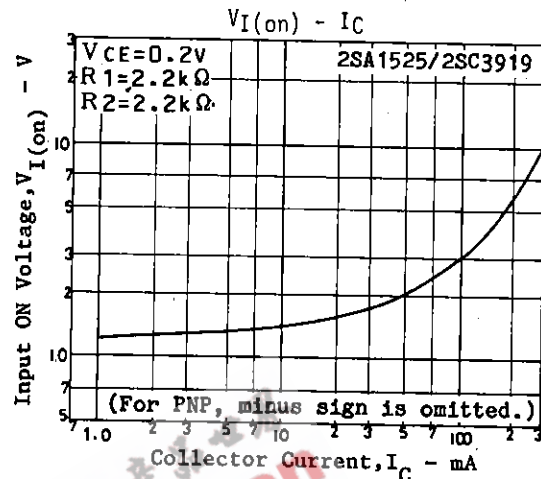
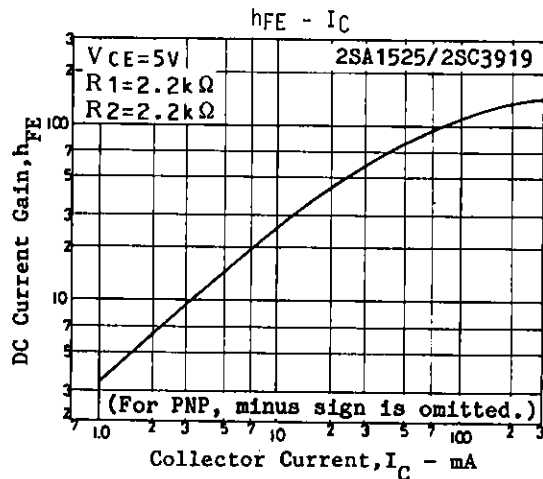
**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

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

3307KI/8026AT, TS No.2149-1/2

Continued from preceding page.

			min	typ	max	unit
Input OFF Voltage	$V_{I(off)}$	$V_{CE} = (-)5V,$ $I_{C} = (-)100\mu A$	$(-)0.8$	$(-)1.1$	$(-)1.5$	V
Input ON-State Voltage	$V_{I(on)}$	$V_{CE} = (-)0.2V,$ $I_{C} = (-)50mA$	$(-)1.0$	$(-)1.9$	$(-)4.0$	V
Input Resistance	$R_1$		1.5	2.2	2.9	k $\Omega$
Resistance Ratio	$R_1/R_2$		0.9	1.0	1.1	



■ No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.

■ Anyone purchasing any products described or contained herein for an above-mentioned use shall:

- ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
- ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.

■ Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.