

**2SA1522/2SC3916****Switching Applications (with Bias Resistance)****Applications**

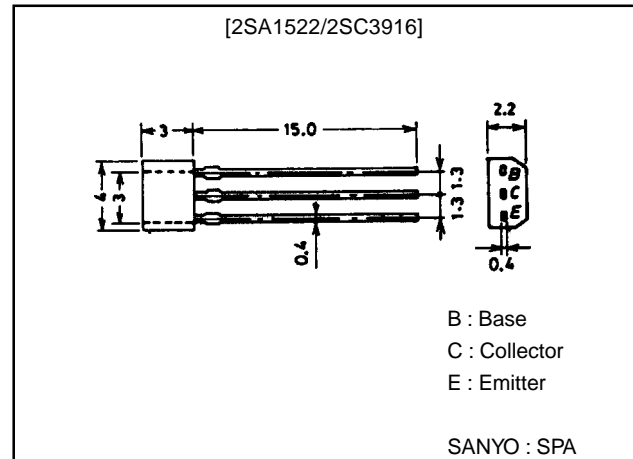
- Switching circuits, inverter circuits, interface circuits, driver circuits.

**Features**

- On-chip bias resistance : R1=10k $\Omega$ , R2=10k $\Omega$ .
- Small-sized package : SPA.
- Large current capacity : I<sub>C</sub>=500mA.

**Package Dimensions**

unit:mm  
2033



( ) : 2SA1522

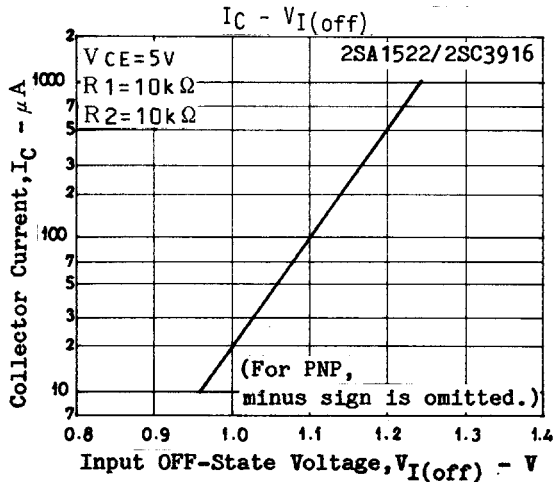
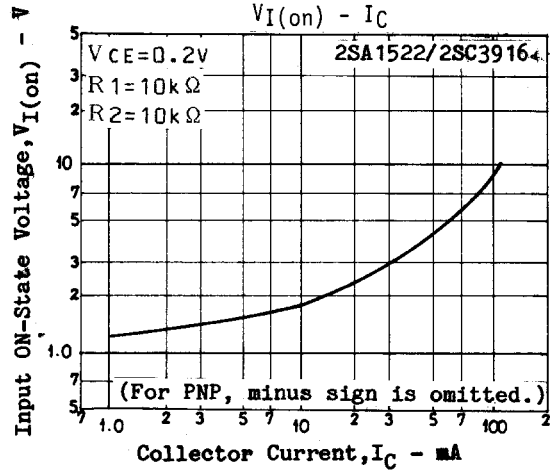
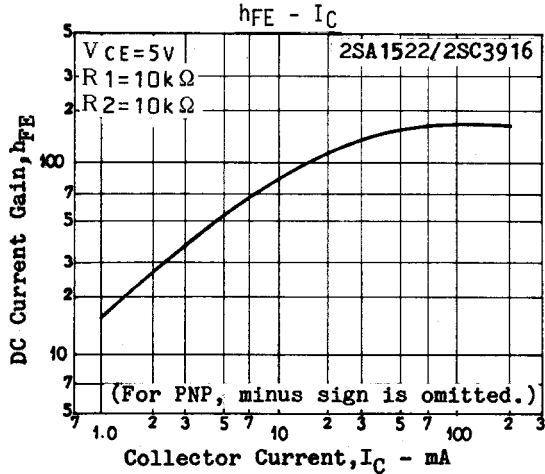
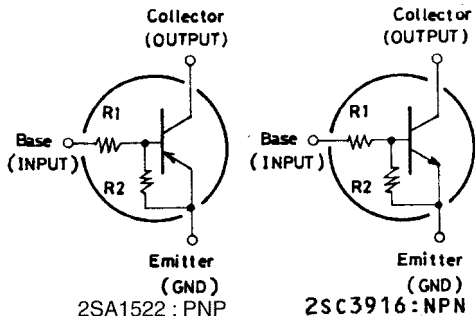
**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		(-)50	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		(-)50	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		(-)10	V
Collector Current	I <sub>C</sub>		(-)500	mA
Collector Current (Pulse)	I <sub>CP</sub>		(-)800	mA
Collector Dissipation	P <sub>C</sub>		300	mW
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

**Electrical Characteristics at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =(-)40V, I <sub>E</sub> =0			(-)0.1	$\mu$ A
	I <sub>CEO</sub>	V <sub>CE</sub> =(-)40V, I <sub>B</sub> =0			(-)0.5	$\mu$ A
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =(-)5V, I <sub>C</sub> =0	(-)195	(-)250	(-)360	$\mu$ A
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)10mA	50			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =(-)10V, I <sub>C</sub> =(-)5mA		250		MHz
				(200)		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =(-)10V, f=1MHz		3.7		pF
				(5.5)		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =(-)20mA, I <sub>B</sub> =(-)1mA		(-)0.1	(-)0.3	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =(-)10 $\mu$ A, I <sub>E</sub> =0	(-)50			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =(-)100 $\mu$ A, R <sub>BE</sub> = $\infty$	(-)50			V
Input OFF-State Voltage	V <sub>I(off)</sub>	V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)100 $\mu$ A	(-)0.8	(-)1.1	(-)1.5	V
Input ON-State Voltage	V <sub>I(on)</sub>	V <sub>CE</sub> =(-)0.2V, I <sub>C</sub> =(-)10mA	(-)1.0	(-)2.0	(-)4.0	V
Input Resistance	R1		7	10	13	k $\Omega$
Resistance Ratio	R1/R2		0.9	1.0	1.1	

Electrical Connection



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