



Switching Applications (with Bias Resistance)

Applications

· Switching circuits, inverter circuits, interface circuits, driver circuits.

Features

· On-chip bias resistance : R1=4.7k Ω , R2=4.7k Ω .

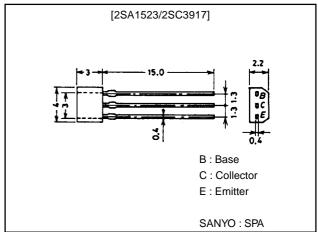
· Small-sized package : SPA.

· Large current capacity : I_C=500mA.

Package Dimensions

unit:mm

2033



(): 2SA1523

Specifications

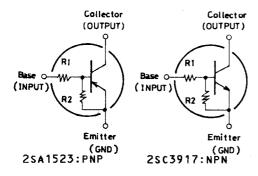
Absolute Maximum Ratings at Ta = 25°C

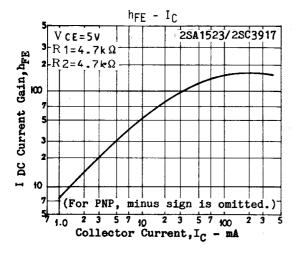
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(–)50	V
Collector-to-Emitter Voltage	VCEO		(–)50	V
Emitter-to-Base Voltage	V _{EBO}		(–)6	V
Collector Current	IC		(–)500	mA
Collector Current (Pulse)	I _{CP}		(–)800	mA
Collector Dissipation	PC		300	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

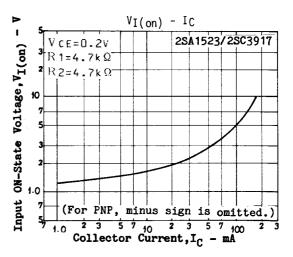
Electrical Characteristics at Ta = 25°C

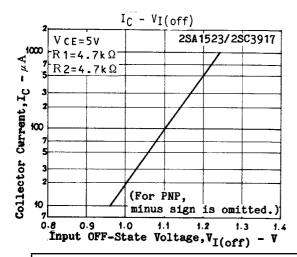
Parameter	Cymphol	Conditions	Ratings			Unit
	Symbol		min	typ	max	Unit
Collector Cutoff Current	ICBO	V _{CB} =(-)40V, I _E =0			(–)0.1	μA
	ICEO	V _{CE} =(-)40V, I _B =0			(-)0.5	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)5V, I _C =0	(–)410	(–)532	(-)760	μA
DC Current Gain	h _{FE}	V _{CE} =(-)5V, I _C =(-)20mA	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 =(-)40mA, I _B =(-)2mA		(–)0.1	(-)0.3	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =(-)10μΑ, I _E =0	(-)50			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =(-)100μA, R _{BE} =∞	(-)50			V
Input OFF-State Voltage	V _{I(off)}	V _{CE} =(-)5V, I _C =(-)100μA	(-)0.8	(–)1.1	(–)1.5	V
Input ON-State Voltage	V _{I(on)}	V _{CE} =(-)0.2V, I _C =(-)20mA	(-)1.0	(–)1.9	(-)4.0	V
Input Resistance	R1		3.3	4.7	6.1	kΩ
Resistance Ratio	R1/R2		0.9	1.0	1.1	

Electrical Connection









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