



Switching Applications (with Bias Resistance)

Applications

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

Features

· On-chip bias resistance : R1=2.2k Ω , R2=10k Ω .

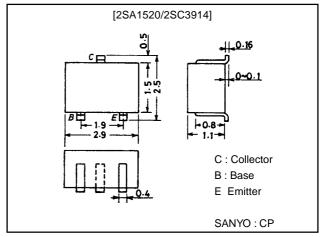
· Small-sized package: CP.

· Large current capacity : I_C=500mA.

Package Dimensions

unit:mm

2018A



(): 2SA1520

Specifications

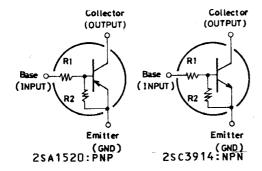
Absolute Maximum Ratings at Ta = 25°C

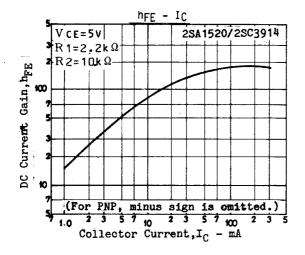
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(-)50	V
Collector-to-Emitter Voltage	V _{CEO}		(-)50	V
Emitter-to-Base Voltage	V _{EBO}		(–)6	V
Collector Current	IC		(-)500	mA
Collector Current (Pulse)	I _{CP}		(-)800	mA
Collector Dissipation	PC		200	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

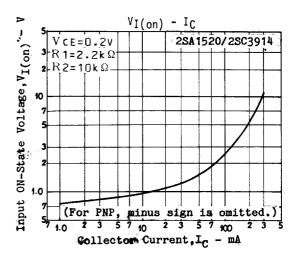
Electrical Characteristics at Ta = 25°C

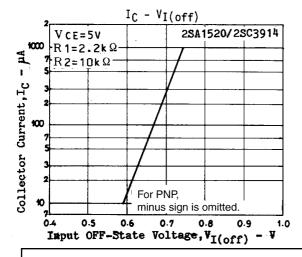
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Collector Cutoff Current	ICBO	V _{CB} =(-)40V, I _E =0			(–)0.1	μA
	ICEO	V _{CE} =(-)40V, I _B =0			(-)0.5	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)5V, I _C =0	(–)315	(–)410	(–)590	μA
DC Current Gain	hFE	V _{CE} =(-)5V, I _C =(-)10mA	50			
Gain-Bandwidth Product	fT	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	VCE(sat)	I _C =(-)50mA, I _B =(-)2.5mA		(–)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	(-)0.5	(-)0.67	(–)0.9	V
Input ON-State Voltage	V _{I(on)}	V _{CE} =(-)0.2V, I _C =(-)50mA	(-)0.7	(–)1.6	(-)3.0	V
Input Resistance	R1		1.5	2.2	2.9	kΩ
Resistance Ratio	R1/R2		0.198	0.22	0.242	

Electrical Connection









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