

2SA1529/2SC3923

Switching Applications (with Bias Resistance)

Applications

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

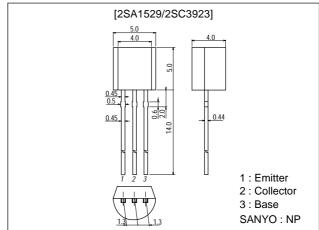
Features

- · On-chip bias resistance : R1=2.2k Ω , R2=2.2k Ω .
- · Large current capacity : I_C=500mA.

Package Dimensions

unit:mm

2003B



(): 2SA1529

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)	ICP		(–)800	mA
Collector Dissipation	PC		600	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions		Ratings		
	Symbol		min	typ	max	Unit
Collector Cutoff Current	I _{CBO}	V _{CB} =(-)40V, I _E =0			(-)0.1	μΑ
	ICEO	V _{CE} =(-)40V, I _B =0			(-)0.5	μΑ
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)5V, I _C =0	(-)860	(–) 1140	(–) 1670	μΑ
DC Current Gain	h _{FE}	V _{CE} =(-)5V, I _C =(-)50mA	50			
Gain-Bandwidth Product		V _{CE} =(-)10V, I _C =(-)5mA		250		MHz
	fT			(200)		MHz

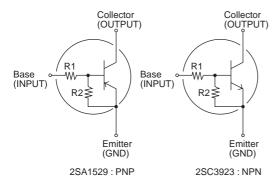
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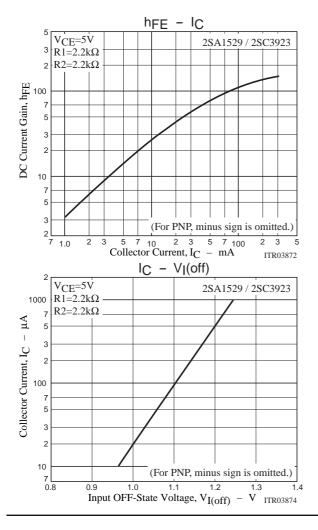
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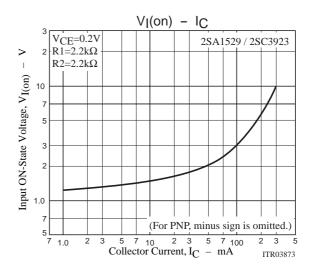
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		3.7		pF
				(5.5)		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)50mA, I _B =(-)2.5mA		(-)0.1	(-)0.3	V
Collector-to-Base 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
Input OFF-State 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	R1		1.5	2.2	2.9	kΩ
Resistance Ratio	R1/R2		0.9	1.0	1.1	

Electrical Connection







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