



2SA1518/2SC3912

Switching Applications (With Bias Resistance)

Application

- Switching circuits, inverters circuits, interface circuits, driver circuits.

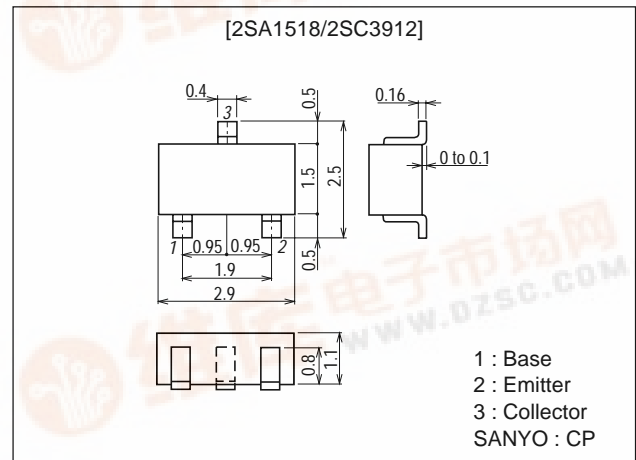
Features

- On-chip bias resistance : R1=10kΩ, R2=10kΩ.
- Small-sized package : CP.
- Large current capacity : I_C=500mA.

Package Dimensions

unit:mm

2018B



() : 2SA1518

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-)50	V
Collector-to-Emitter Voltage	V _{CEO}		(-)50	V
Emitter-to-Base Voltage	V _{EBO}		(-)10	V
Collector Current	I _C		(-)500	mA
Peak Collector Current	I _{CP}		(-)800	mA
Collector Dissipation	P _C		200	mW
Junction Temperature	T _j		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =(-)40V, I _E =0			(-)0.1	μA
	I _{CEO}	V _{CE} =(-)40V, I _B =0			(-)0.5	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)5V, I _C =0	(-)195	(-)250	(-)360	μA
DC Current Gain	h _{FE}	V _{CE} =(-)5V, I _C =(-)10mA	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

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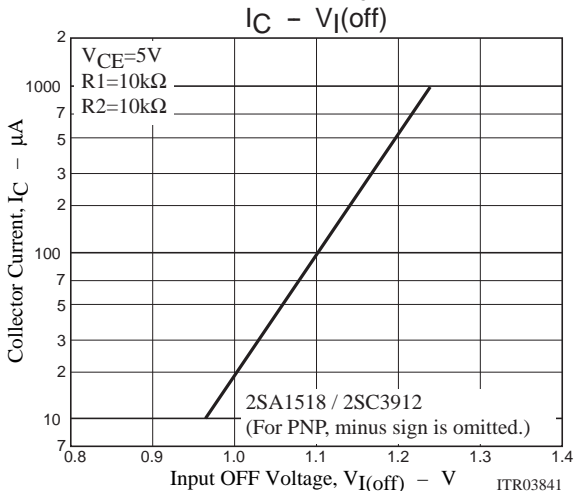
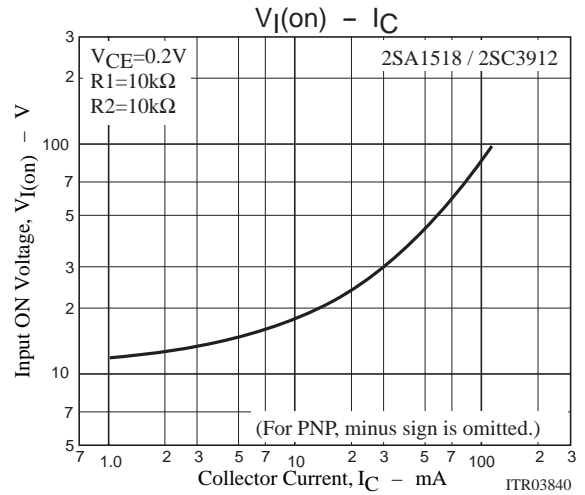
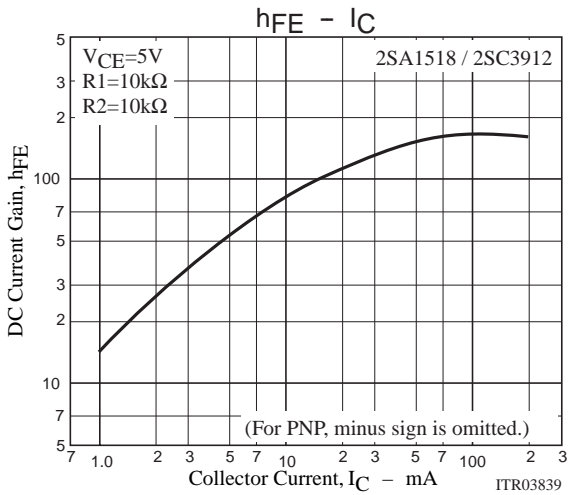
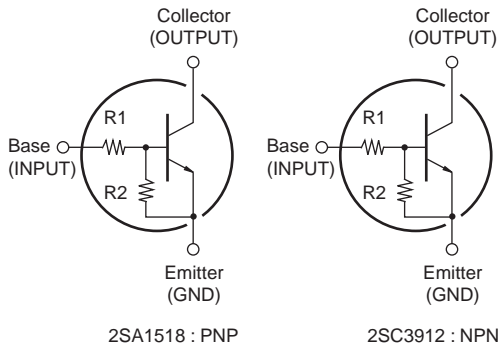
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)20mA, I_B=(-)1mA$		(-)0.1	(-)0.3	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)50			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)100\mu A, R_{BE}=\infty$	(-)50			V
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	$V_{I(on)}$	$V_{CE}=(-)0.2V, I_C=(-)10mA$	(-)1.0	(-)2.0	(-)4.0	V
Input Resistance	R1		7	10	13	k Ω
Resistance Ratio	R1/R2		0.9	1.0	1.1	

Marking 2SA1518 : LL, 2SC3912 : TY

Electrical Connection



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