



## SSCP114GS6

### PNP Type Digital Transistor (built-in resistors)

#### ➤ Features

VCC	VIN	IO	R2/R1 Typ.
-50V	-40~+6V	-70mA	4.7

#### ➤ Description

Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).

The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects. Only the on/off conditions need to be set for operation, making the device design easy.

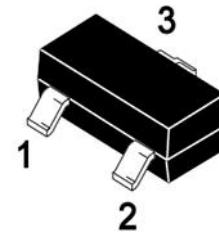
#### ➤ Applications

- Amplifying signal
- Electronic switch
- Oscillating circuit
- Variable resistance

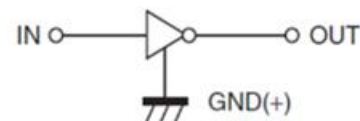
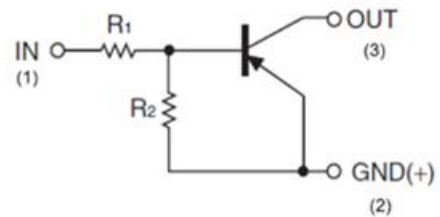
#### ➤ Ordering Information

Device	Package	Shipping
SSCP114GS6	SOT-23	3000/Reel

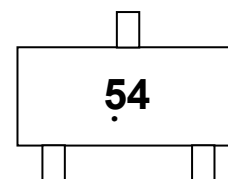
#### ➤ Pin configuration



**SOT-23**



**Circuit Diagram**



**Marking(Top View)**



➤ **Absolute Maximum Ratings**( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

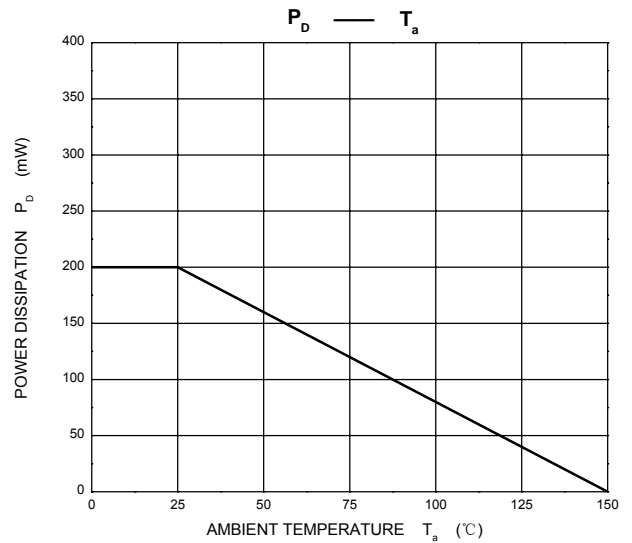
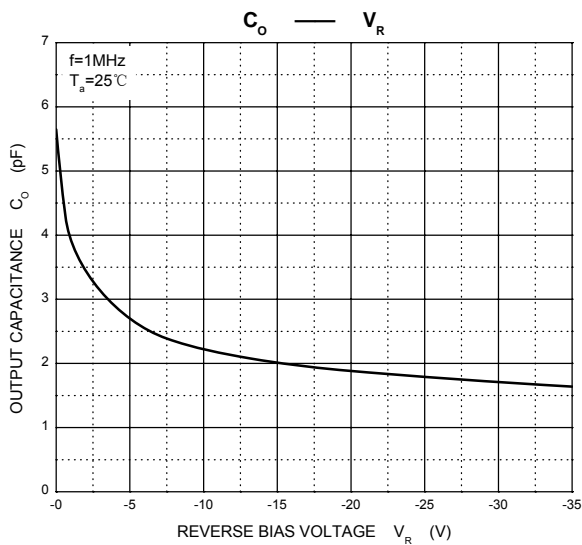
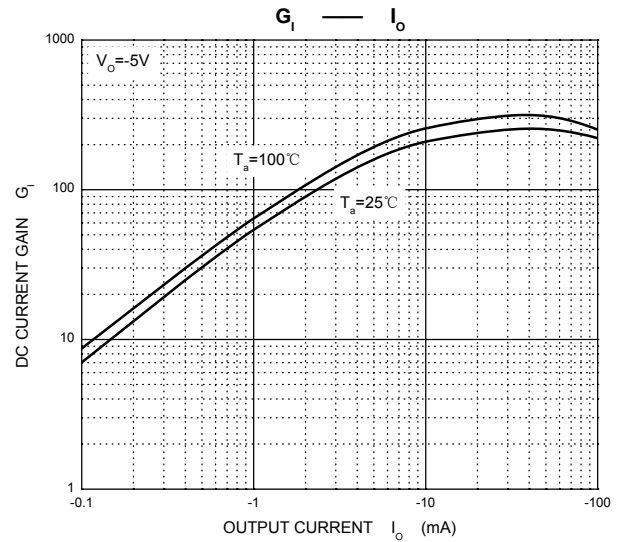
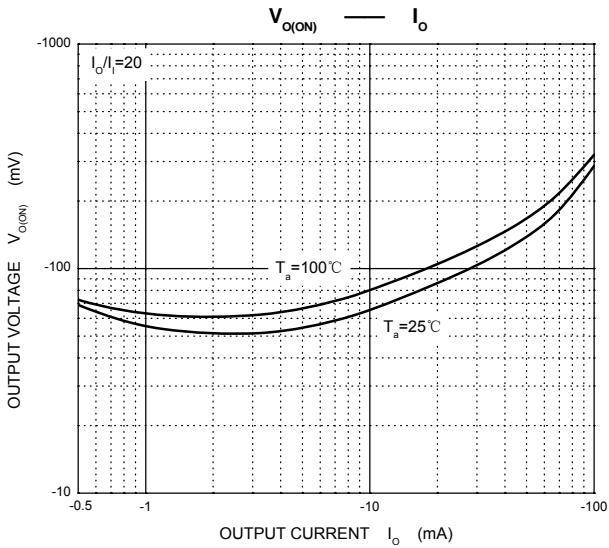
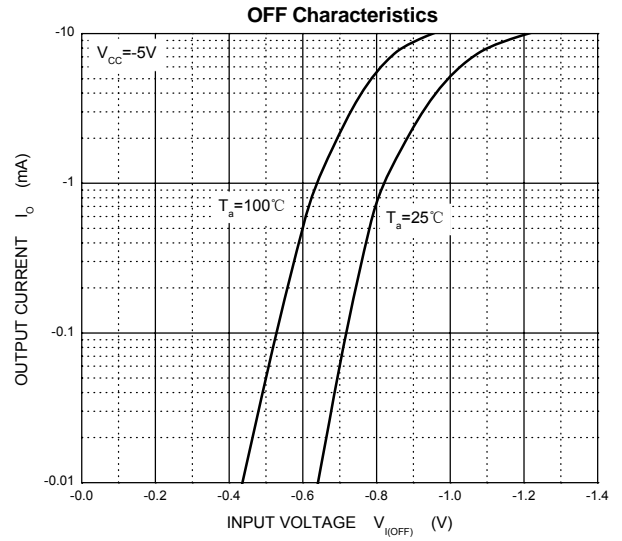
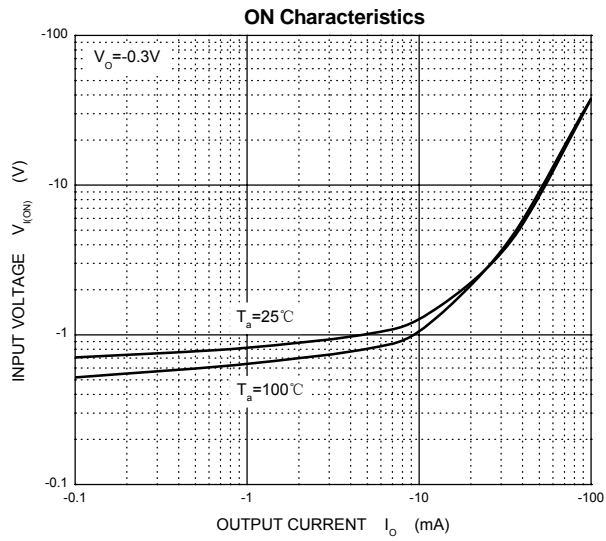
Parameter	Symbol	Value	Unit
Supply Voltage	$V_{CC}$	-50	V
Input Voltage	$V_{IN}$	-40 to +6	V
Output current	$I_o$	-70	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_J$	-55 to 150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to 150	$^{\circ}\text{C}$

➤ **Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

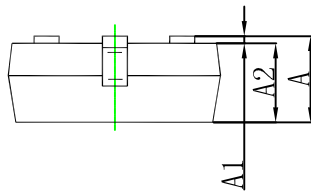
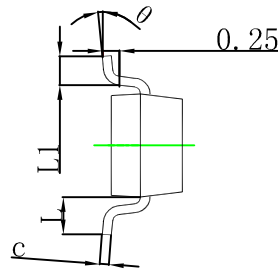
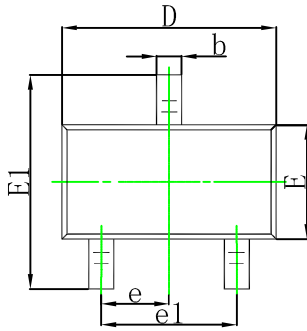
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input Voltage	$V_{I(off)}$	$V_{CC} = -5V, I_o = -100\mu\text{A}$	-0.3			V
	$V_{I(on)}$	$V_{CC} = -0.3V, I_o = -1\text{mA}$			-1.4	V
Output Voltage	$V_{O(on)}$	$I_o/I_i = -5\text{mA} / -0.25\text{mA}$			-0.3	V
Input Current	$I_i$	$V_i = -5V$			-0.88	mA
Output Current	$I_{O(off)}$	$V_{CC} = -50V, V_i = 0V$			-0.5	$\mu\text{A}$
DC Current Gain	$G_1$	$V_o = -5V, I_o = -5\text{mA}$	68			
Input Resistance	$R_1$		7	10	13	$\text{K}\Omega$
Resistance Ration	$R_2/R_1$		3.7	4.7	5.7	
Transition Frequency	$f_T$	$V_{CE} = -10V, I_o = -5\text{mA}, f = 100\text{MHz}$		250		MHz



➤ Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)

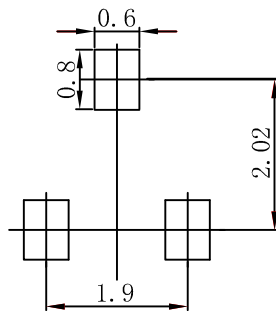


## ➤ Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

## SOT-23 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05\text{mm}$ .
  3. The pad layout is for reference purposes only.



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