



## SSCP114GS8

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

#### ➤ Features

VCC	VIN	IO	R1	R2/R1 Typ.
-50V	-40~+6V	-70mA	10kΩ	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.

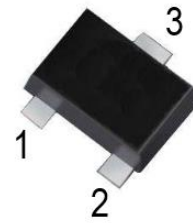
#### ➤ Applications

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

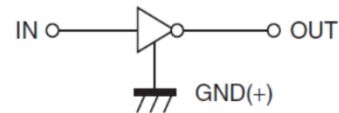
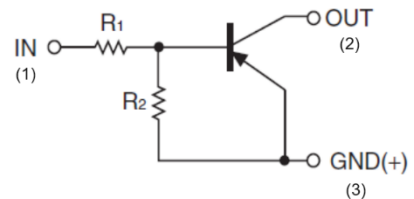
#### ➤ Ordering Information

Device	Package	Shipping
SSCP114GS8	SOT-523	3000/Reel

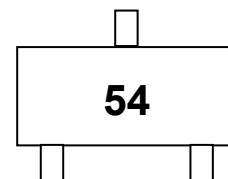
#### ➤ Pin configuration



**SOT-523**



**Circuit Diagram**



**Marking (Top View)**



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

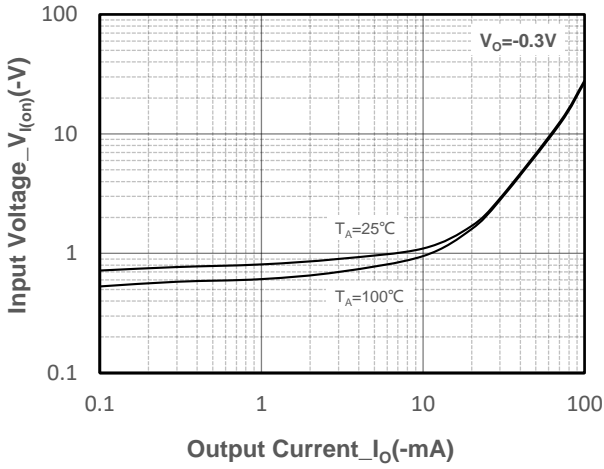
Parameter	Symbol	Value	Unit
Supply Voltage	$V_{CC}$	-50	V
Input Voltage	$V_{IN}$	-40 to +5	V
Output current	$I_o$	-70	mA
Power Dissipation	$P_D$	150	mW
Junction Temperature	$T_J$	-55 to 150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to 150	$^{\circ}\text{C}$

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

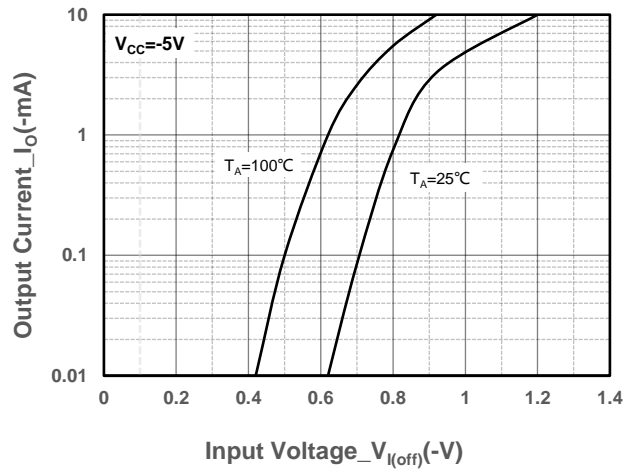
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input Voltage	$V_{I(off)}$	$V_{CC} = -5V, I_o = -0.1mA$	-0.3			V
	$V_{I(on)}$	$V_{CC} = -0.3V, I_o = -1mA$			-1.4	V
Output Voltage	$V_{O(on)}$	$I_o/I_i = -5mA/-0.25mA$			-0.3	V
Input Current	$I_i$	$V_i = -5V$			-0.88	mA
Output Current	$I_{O(off)}$	$V_{CC} = -50V, V_i = 0V$			-0.5	$\mu\text{A}$
DC Current Gain	$G_1$	$V_o = -5V, I_o = -5mA$	68			
Input Resistance	$R_1$		7	10	13	$k\Omega$
Resistance Ration	$R_2/R_1$		3.7	4.7	5.7	
Transition Frequency	$f_T$	$V_o=-10V, I_o=-5mA, f=100MHz$		250		MHz



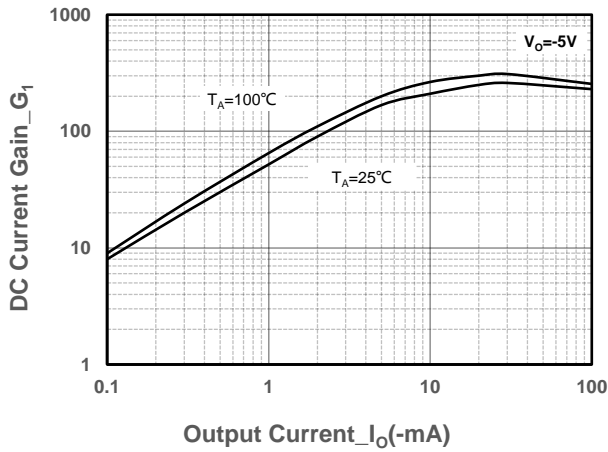
➤ **Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)**



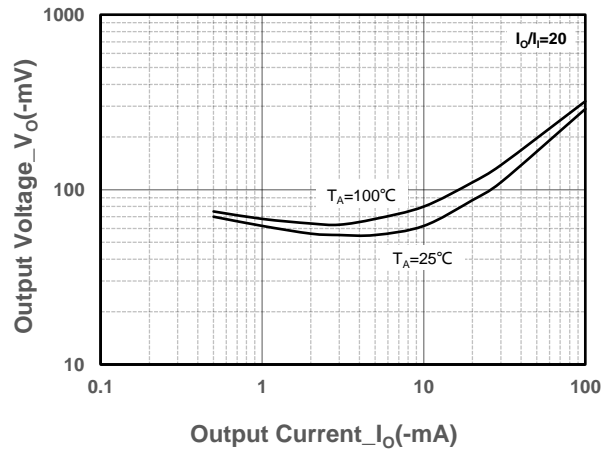
**Input Voltage vs. Output Current**



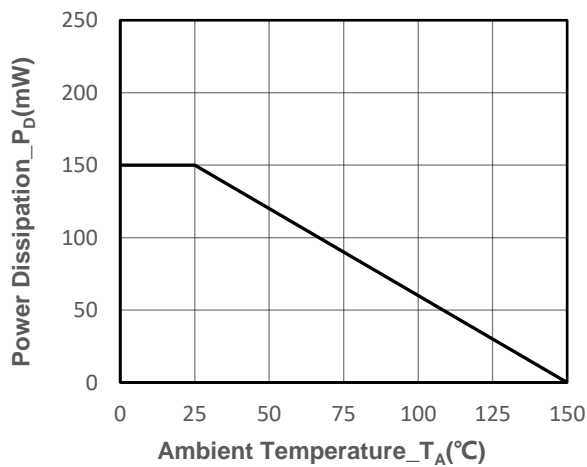
**Output Current vs. Input Voltage**



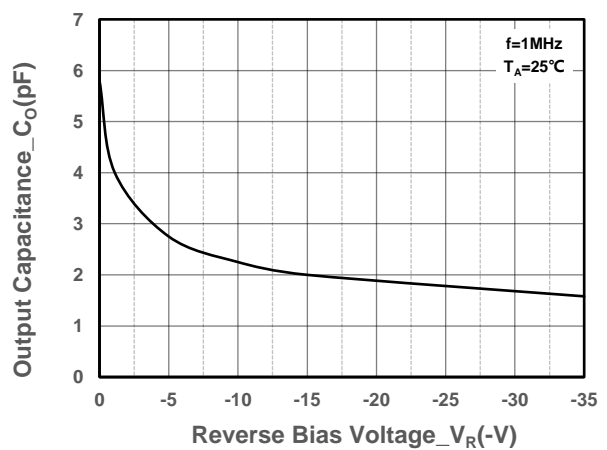
**DC Current Gain vs. Output Current**



**Output Voltage vs. Output Current**



**Power derating vs. Ambient temperature**



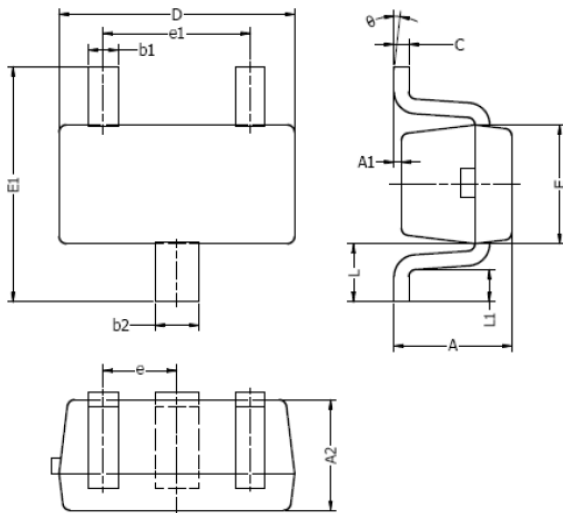
**Output Capacitance vs. Reverse Voltage**



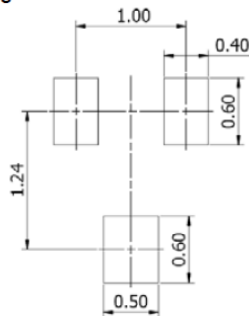
## ➤ Package Information

### ● Mechanical Data

#### SOT-523



Typical Soldering Pattern:



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
A1	0.00	0.10	0.000	0.004
A2	0.70	0.80	0.028	0.031
b1	0.15	0.25	0.006	0.010
b2	0.25	0.35	0.010	0.014
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
E1	1.45	1.75	0.057	0.069
e	0.50 TYP.		0.020 TYP.	
e1	0.90	1.10	0.035	0.043
L	0.40 REF.		0.016 REF.	
L1	0.10	0.30	0.004	0.012
θ	0°	8°	0°	8°

**NOTES:**

1. Above package outline conforms to JEITA EAIJ ED-7500A SC-75A.
2. Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.



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