



SSCN143GN5

Digital Transistor(built-in resistors)

➤ Features

VCC	VIN	IO	R2/R1 Typ.
50V	-5~+30V	100mA	10

➤ 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.

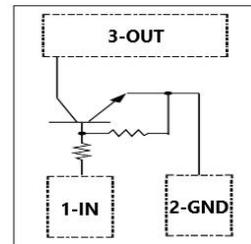
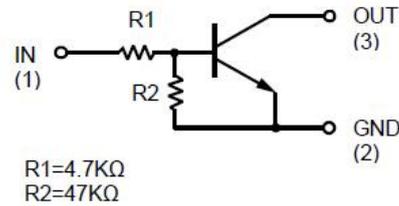
➤ Applications

- Inverter
- Interface
- Driver

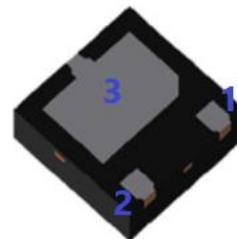
➤ Ordering Information

Device	Package	Shipping
SSCN143GN5	DFN1616	3000/Reel

➤ Pin configuration



Top view



DFN1616



Marking



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

Symbol	Parameter	Ratings	Unit
V_{CC}	Supply Voltage	50	V
V_{IN}	Input Voltage	-5 to +30	V
I_O	Output current	100	mA
$I_{C(MAX.)}$		100	mA
P_D	Power Dissipation	150	mW
T_J	Operation junction temperature	-55 to 150	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-55 to 150	$^{\circ}\text{C}$

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

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{I(off)}$	Input voltage	$V_{CC}=5V, I_O=100\mu A$	0.5		1	V
$V_{I(on)}$		$V_{CC}=0.3V, I_O=5mA$		1		V
$V_{O(on)}$	Output voltage	$I_O/I_I=5mA/0.25mA$		0.1	0.3	V
I_I	Input current	$V_I=5V$			1.8	mA
$I_{O(off)}$	Output current	$V_{CC}=50V, V_I=0V$			0.5	μA
G_1	DC current gain	$V_O=5V, I_O=10mA$	80			
R_1	Input resistance		3.29	4.7	6.11	$K\Omega$
R_2/R_1	Resistance ration		8	10	12	$K\Omega$
f_T	Transition frequency	$V_{CE}=10V, I_E=-5mA, f=100MHz$		250		MHz



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

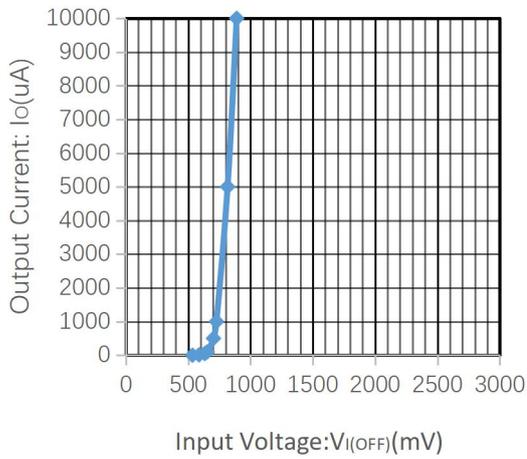
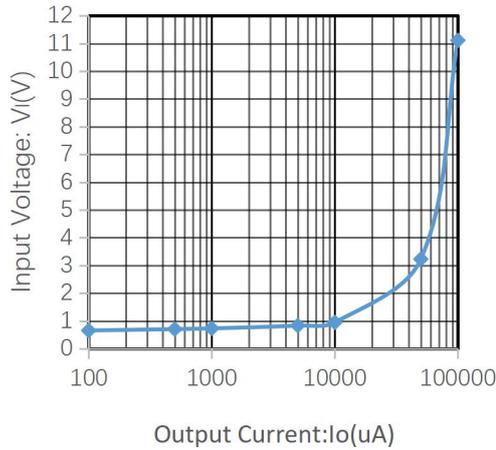


Fig 1. Input voltage vs. output current
@ $V_o=0.3\text{V}$ (ON characteristics)

Fig 2. Output current vs. input voltage
@ $V_{cc}=5\text{V}$ (OFF characteristics)

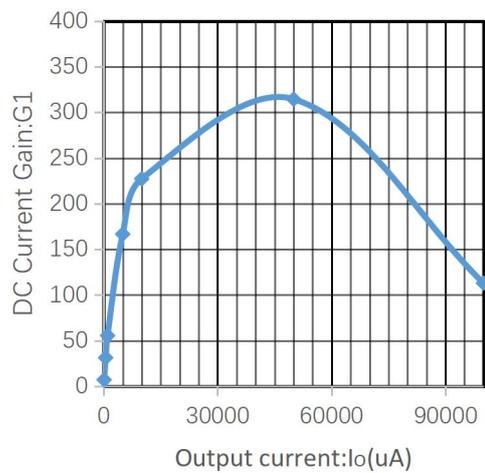


Fig 3. DC current gain vs. output current
@ $V_o=5\text{V}$

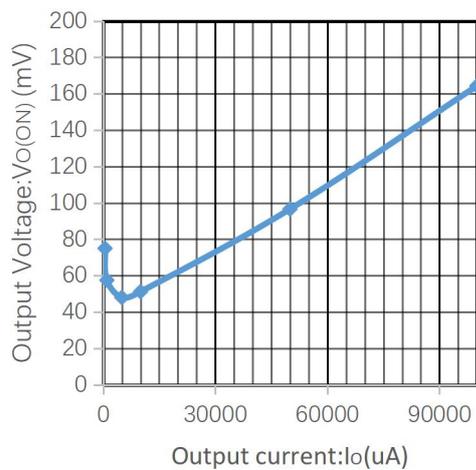
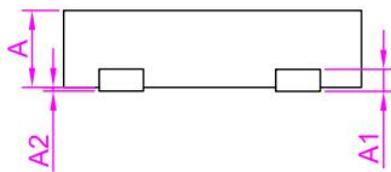
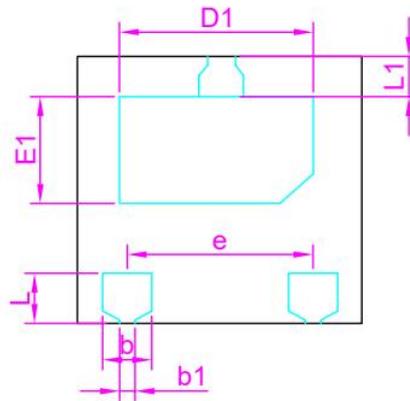
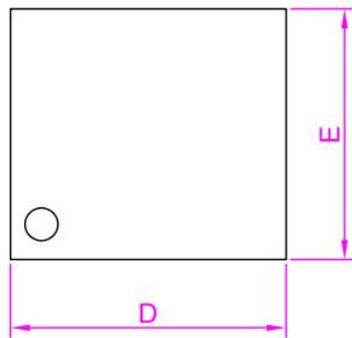


Fig 4. Output current vs. output voltage
@ $I_o/I_i=20$

➤ Package Information





COMMON DIMENSION (MM)			
PKG	DFN1616-3L		
REF.	MIN.	NOM.	MAX.
A	0.50	0.55	0.60
D	1.55	1.60	1.65
E	1.55	1.60	1.65
b	0.35	0.40	0.45
L	0.35	0.40	0.45
e	1.00BSC		
D1	1.15	1.20	1.25
E1	0.50	0.55	0.65
b1	0.15	0.20	0.25
L1	0.20	0.25	0.30
A1	0.15BSC		
A2	0.00	0.025	0.05



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