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.

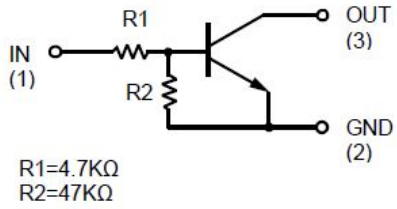
➢ Applications

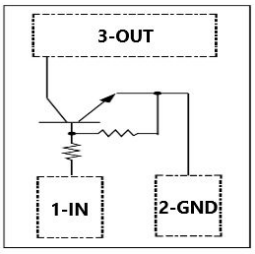
- Inverter
- Interface
- Driver

➢ Ordering Information

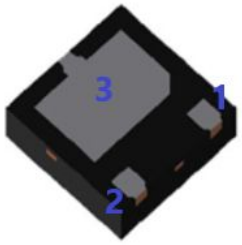
Device	Package	Shipping
SSCN143GN5	DFN1616	3000/Reel

➢ Pin configuration





Top view



DFN1616

Marking

➢ Absolute Maximum Ratings(T_A=25℃ 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	℃
T_{STG}	Storage temperature range	-55 to 150	℃

➢ Electronics Characteristics(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{I(off)}$	Input voltage	V_{CC}=5V , I_O=100uA	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	uA
G_1	DC current gain	V_O=5V , I_O=10mA	80			
R_1	Input resistance		3.29	4.7	6.11	KΩ
R_2/R_1	Resistance ration		8	10	12	KΩ
f_T	Transition frequency	V_{CE}=10V,I_E=-5mA,f=100MHz		250		MHz

➢ **Typical Characteristics**(T_A=25℃ unless otherwise noted)

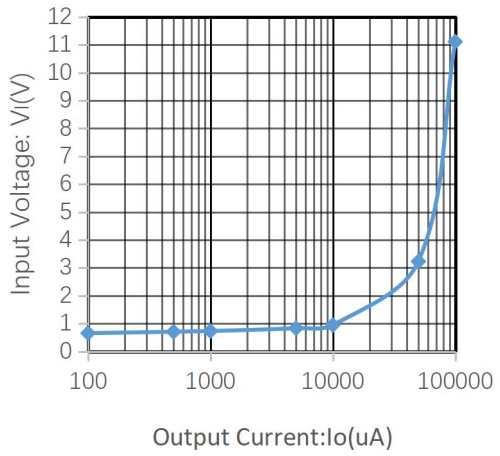


Fig 1.Input voltage vs. output current @V_o=0.3V(ON characteristics)

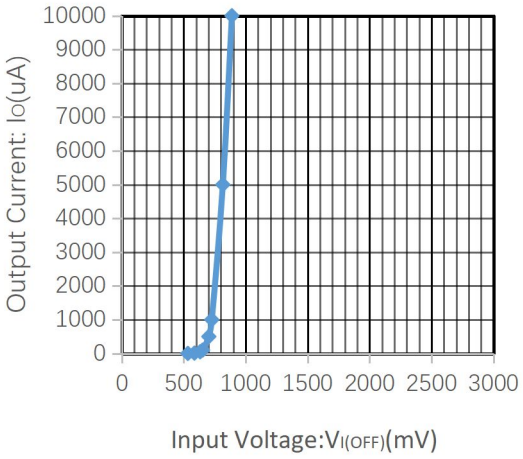


Fig 2.Output current vs. input voltage @V_{cc}=5V(OFF characteristics)

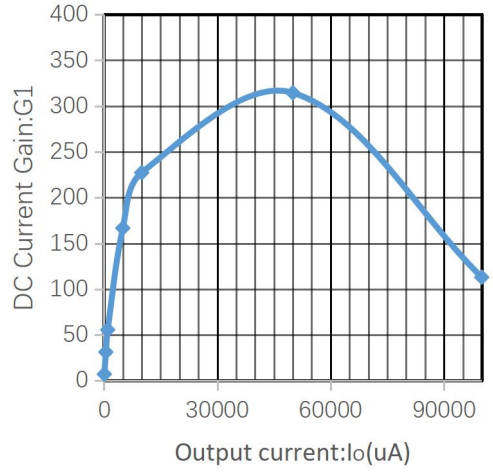


Fig 3.DC current gain vs. output current @V_o=5V

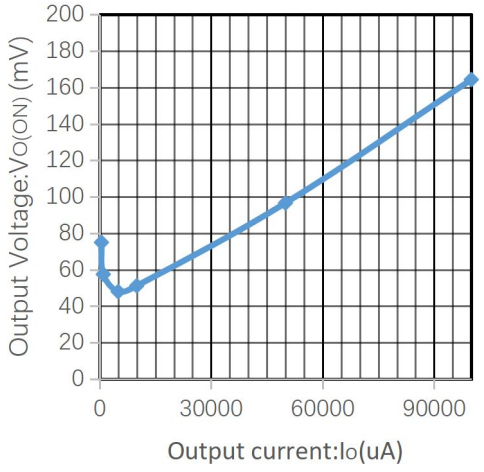
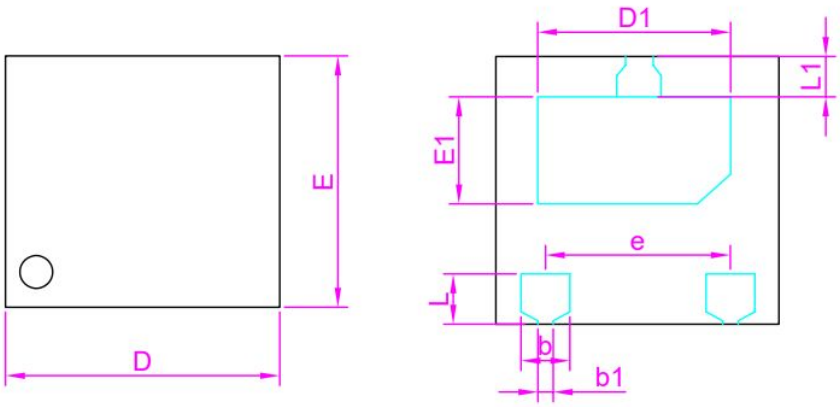
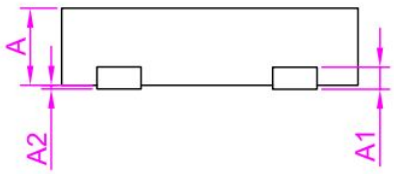


Fig 4.Output current vs. output voltage @I_o/I_i=20

➢ 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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