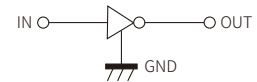
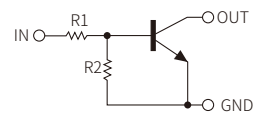


FEATURES

- 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 device design easy



Marking



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-5 to +30	V
Output Current	I_O	100	mA
Power Dissipation	P_D	200	mW
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input voltage	$V_{I(off)}$	$V_{CC}=5\text{V}, I_O=100\mu\text{A}$	0.5			V
	$V_{I(on)}$	$V_O=0.3\text{V}, I_O=5\text{mA}$			1.3	V
Output voltage	$V_{O(on)}$	$I_O/I_I=5\text{mA}/0.25\text{mA}$		0.1	0.3	V
Input current	I_I	$V_I=5\text{V}$			1.8	mA
Output current	$I_{O(off)}$	$V_{CC}=50\text{V}, V_I=0$			0.5	μA
DC current gain	G_I	$V_O=5\text{V}, I_O=10\text{mA}$	80			
Input resistance	R_I		3.29	4.7	6.11	$\text{k}\Omega$
Resistance ratio	R_2/R_1		8	10	12	
Transition frequency	f_T	$V_O=10\text{V}, I_O=5\text{mA}, f=100\text{MHz}$		250		MHz

CHARACTERISTIC CURVES

Fig.1 ON Characteristics

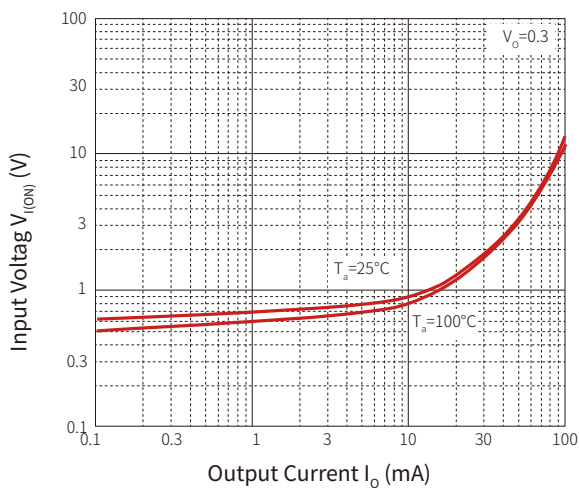


Fig.2 OFF Characteristics

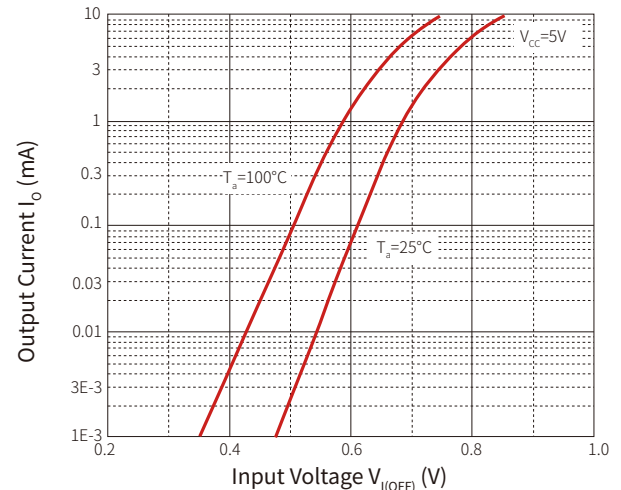
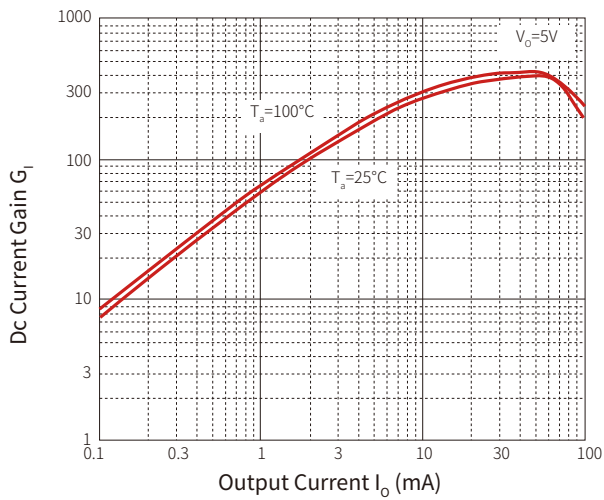
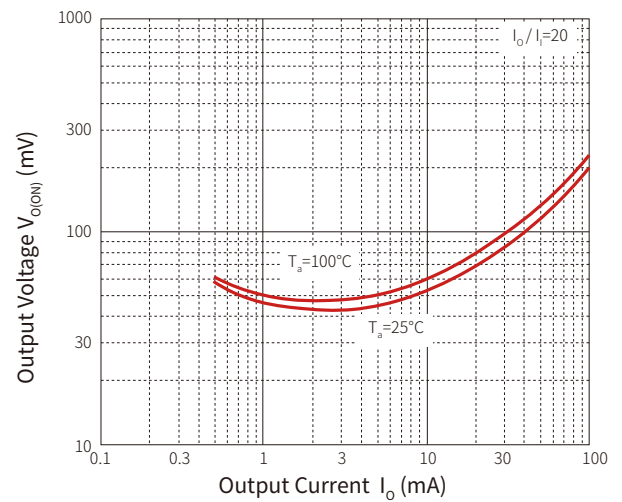
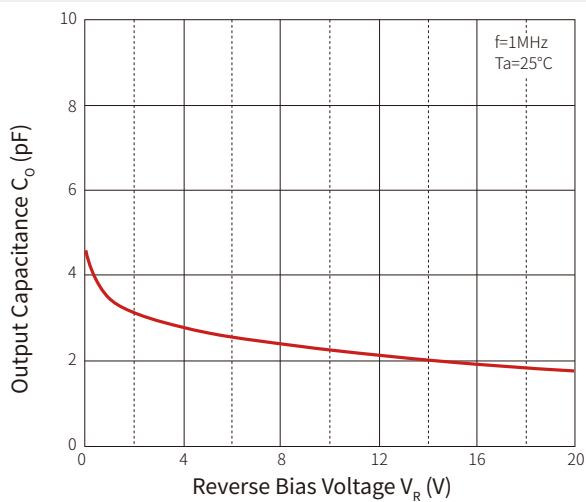
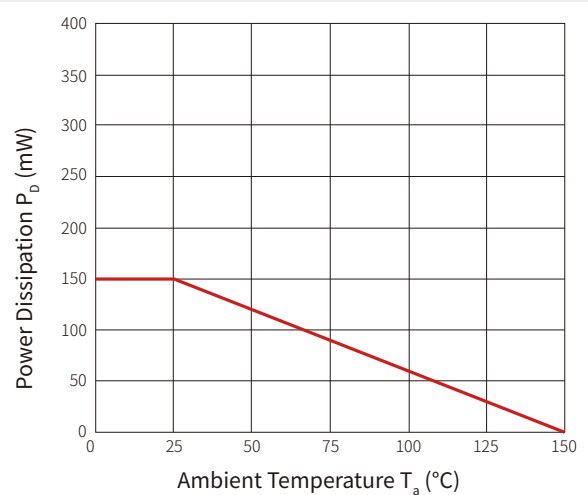
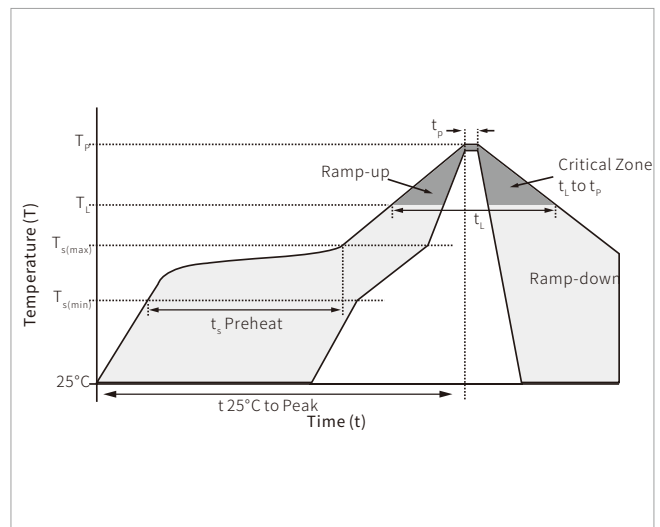


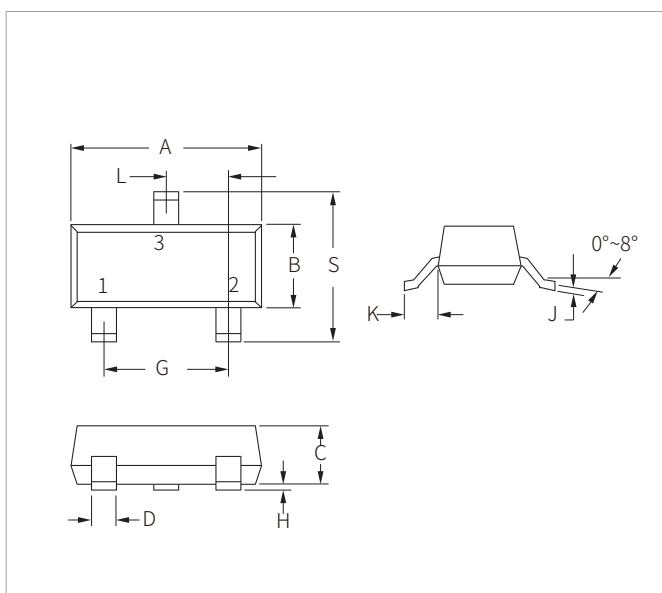
Fig.3 G_I — I_O

Fig.4 $V_{O(ON)}$ — I_O

Fig.5 C_O — V_R

Fig.6 P_D — T_a


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

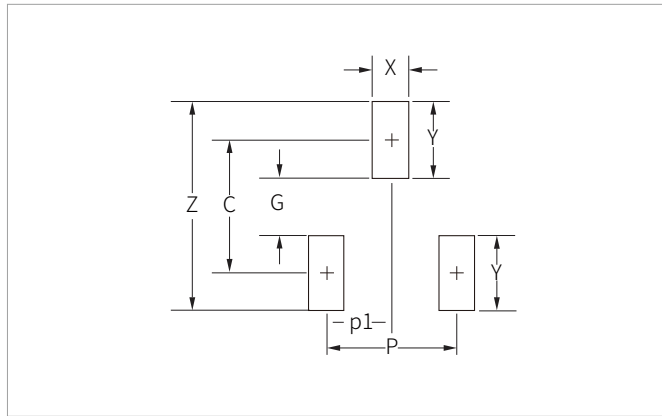


SOT-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.70	0.059	0.067
B	0.70	0.90	0.028	0.035
C	0.60	0.90	0.023	0.035
D	0.15	0.30	0.005	0.012
G	1.00BSC		0.039BSC	
H	0.00	0.10	0.000	0.004
J	0.10	0.20	0.004	0.008
K	(0.22)		(0.009)	
L	0.50BSC		0.020BSC	
S	1.45	1.75	0.057	0.069

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	(1.40)	(0.055)
P	1.00	0.039
p1	0.50	0.020
G	0.60	0.024
X	0.40	0.016
Y	0.80	0.031
Z	2.20	0.087

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
DTC143ZE	SOT-523	3000PCS	7"

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By QR Code

Website



Wechat

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