

**FEATURES**

- Built-in bias resistors enable the configuration of an invert 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



SOT-23

**MAXIMUM RATINGS(Ta=25°C unless otherwise noted)**

Symbol	Parameter	Limits	Unit
V <sub>CC</sub>	Supply Voltage	50	V
V <sub>IN</sub>	Input Voltage	-5~+12	V
I <sub>O</sub>	Output Current	500	mA
P <sub>D</sub>	Power Dissipation	200	mW
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C

**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input voltage	V <sub>I(off)</sub>	V <sub>CC</sub> =5V,I <sub>O</sub> =100μA	0.3			V
	V <sub>I(on)</sub>	V <sub>O</sub> =0.3V,I <sub>O</sub> 20mA			2	V
Output voltage	V <sub>O(on)</sub>	I <sub>O</sub> /I <sub>I</sub> =50mA/2.5mA		0.1	0.3	V
Input current	I <sub>I</sub>	V <sub>I</sub> =5V			3.6	mA
Output current	I <sub>O(off)</sub>	V <sub>CC</sub> =50V,V <sub>I</sub> 0			0.5	μA
DC current gain	G <sub>I</sub>	V <sub>O</sub> =5V,I <sub>O</sub> =50mA	56			
Input resistance	R <sub>1</sub>		1.54	2.2	2.86	kΩ
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>		3.6	4.5	5.5	
Transition frequency	f <sub>T</sub>	V <sub>O</sub> 10V,I <sub>O</sub> 5mA,f=100MHz		200		MHz

**Typical Characteristics**

Fig.1 Input Voltage vs. Output Current (ON Characteristics)

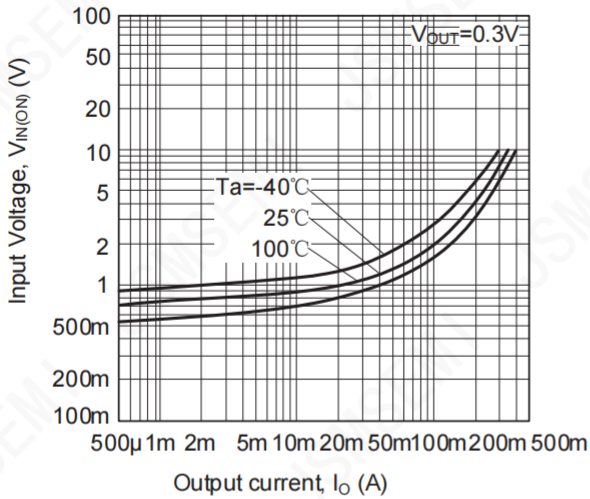


Fig.2 Output Current vs. Input Voltage (OFF Characteristics)

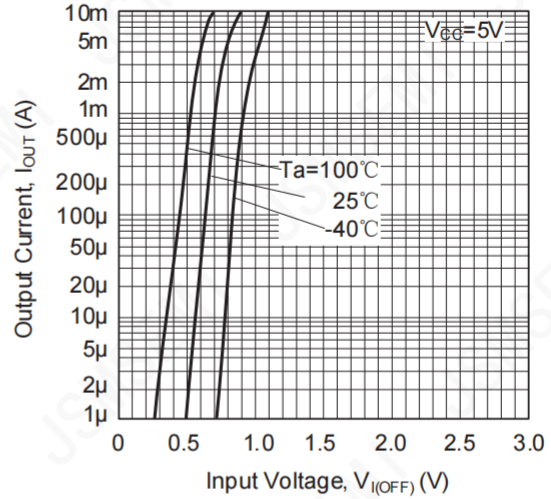


Fig.3 DC Current Gain vs. Output Current

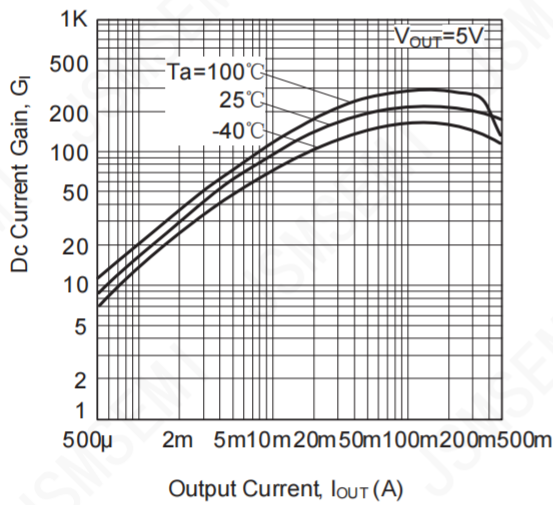
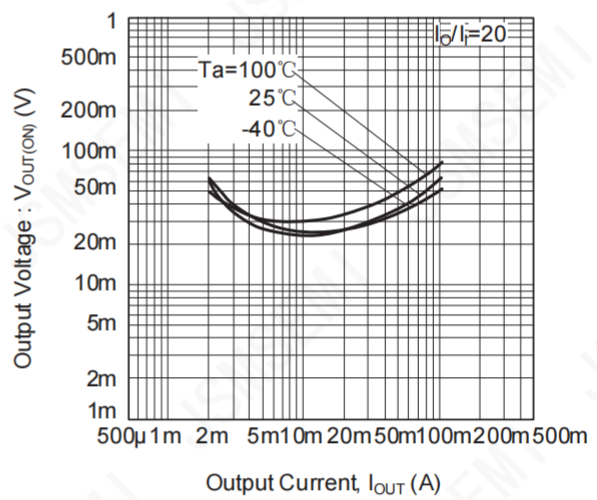


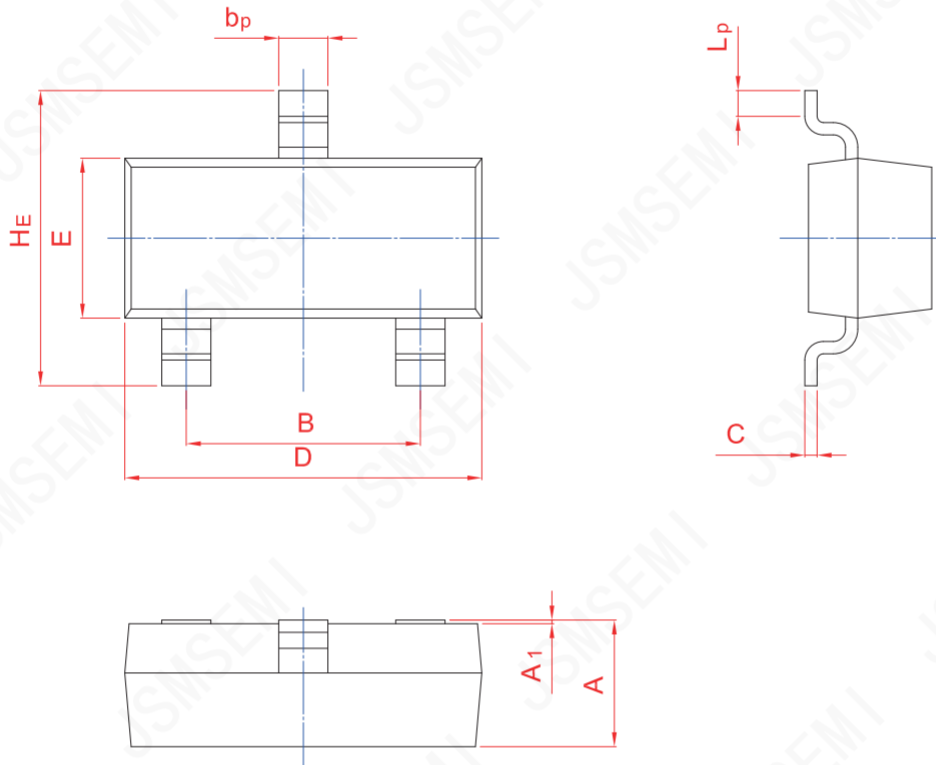
Fig.4 Output Voltage vs. Output Current



**PACKAGE OUTLINE**

Plastic surface mounted package; 3 leads

**SOT-23**



UNIT	A	B	$b_p$	C	D	E	$H_E$	$A_1$	$L_p$
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20

## Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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