FEATURES

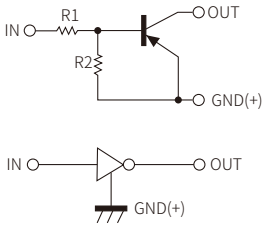
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors(see equivalent circuit)
- The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input.They also have the advantage of almost completely eliminating parasitic effects
- Only the on/off conditions need to be set for operation, making device design easy



SOT-23



Marking



Schematic Symbol

MECHANICAL DATA

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

APPROVALS

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

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	-12~ +5	V
Output Current	I_O	-100	mA
Power Dissipation	P_C	200	mW
Operation Junction and Storage Temperature Range	T_J,T_{stg}	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input voltage	$V_{I(on)}$	V_O=-0.3V ,I_O=-5mA			-1.1	V
	$V_{I(off)}$	V_{CC}=-5V,I_O=-0.1mA	-0.5			V
Output voltage	$V_{O(on)}$	I_O/I_I=-5mA/-0.25mA		-0.1	-0.3	V
Input current	I_I	V_I=-5V			-3.6	mA
Output current	$I_{O(off)}$	V_{CC}=-50V,V_I=0			-0.5	μA
DC current gain	G_I	V_O=-5V,I_O=-10mA	80			
Input resistance	R_I		1.54	2.2	2.86	kΩ
Resistance ratio	R_2/R_1		17	21	26	
Transition frequency	f_T	V_O=-10V,I_O=-5mA,f=100MHz		250		MHz

CHARACTERISTIC CURVES

Fig.1 G_I ——— I_o

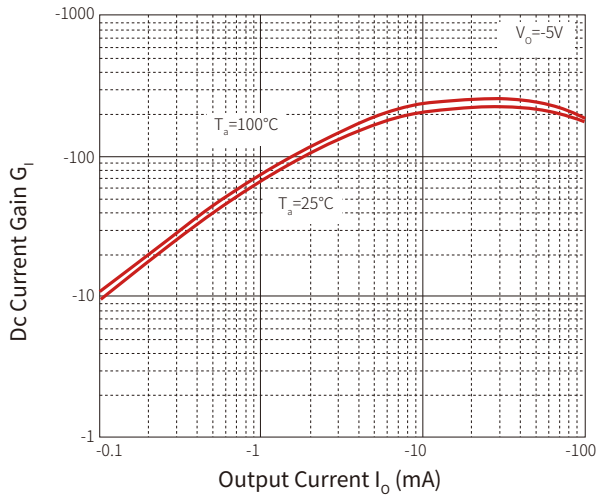


Fig.2 $V_{O(ON)}$ ——— I_o

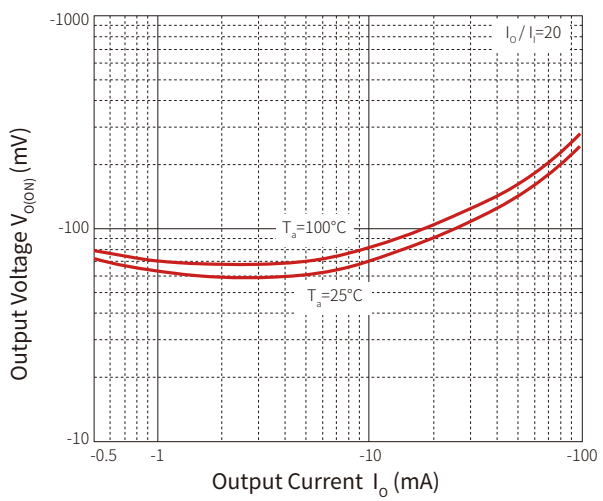


Fig.3 C_O ——— V_R

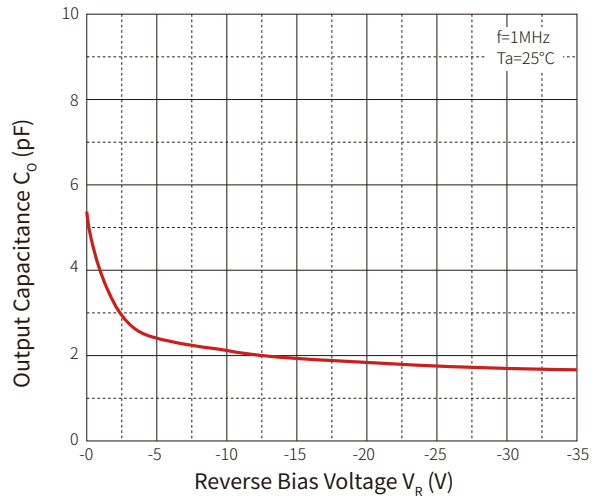
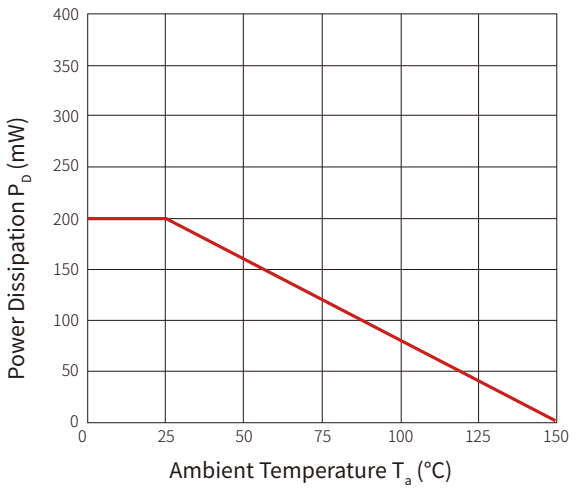
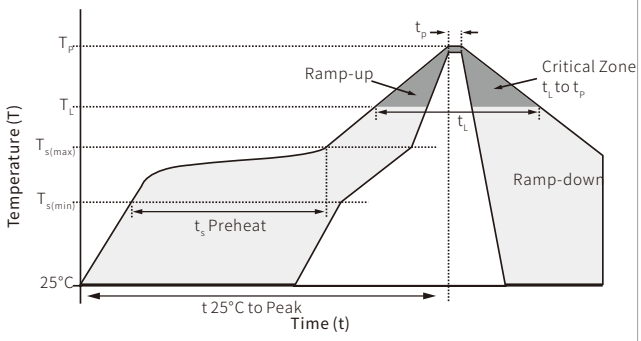


Fig.4 P_D ——— T_a

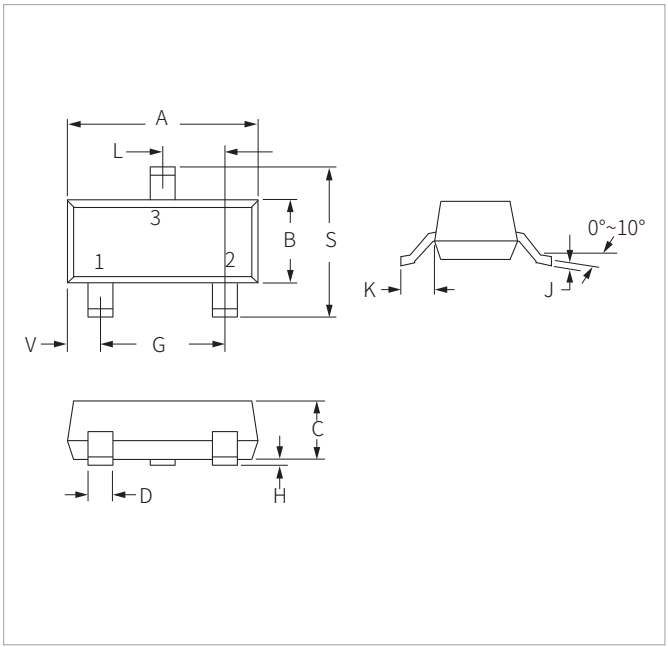


SOLDERING PARAMETERS

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

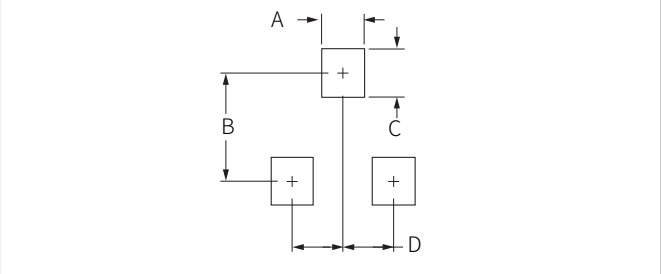


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.05	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.90	1.15	0.035	0.045
D	0.37	0.50	0.015	0.020
G	1.75	2.05	0.069	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.65	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
DTA123JCA	SOT-23	3000PCS	7”

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No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

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Email: sales18@semiware.com

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Email: sales17@semiware.com

Technical Support
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Complaint & Suggestions
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Ext: 8868
Email: cs03@semiware.com

By QR Code
Website
Wechat

To find your local partner within Semiware' s global website: www.semiware.com

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