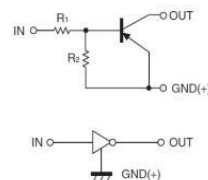


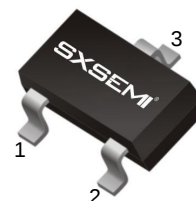
FEATURES

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- Surface mount package ideally Suited for Automatic Insertion

Equivalent Circuit



SOT-523



MARKING:13

1. IN 2. GND 3. OUT

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

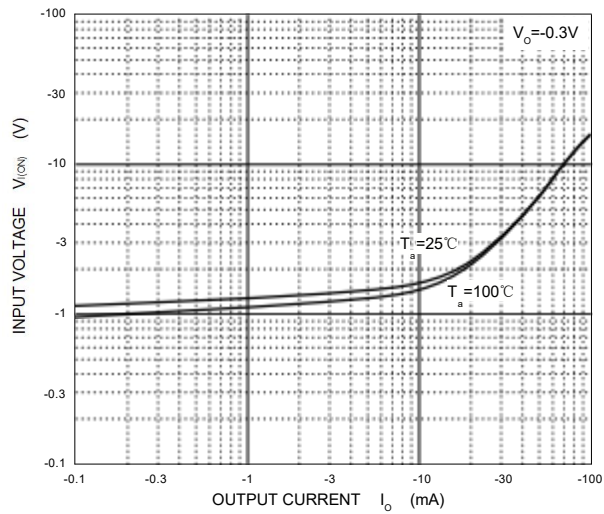
Symbol	Parameter	Limits	Unit
V_{CC}	Supply Voltage	-50	V
V_{IN}	Input Voltage	-30 ~ +10	V
I_O	Output Current	-100	mA
P_D	Power Dissipation	150	mW
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55 ~ +150	°C

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

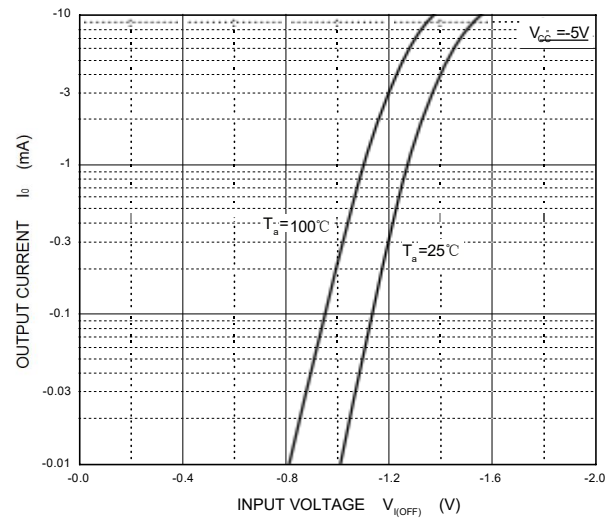
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	$V_{CC} = -5V, I_O = -100\mu A$	-0.5			V
	$V_{I(on)}$	$V_O = -0.3V, I_O = -20 mA$			-3	V
Output voltage	$V_{O(on)}$	$I_O/I_I = -10mA/-0.5mA$			-0.3	V
Input current	I_I	$V_I = -5V$			-1.8	mA
Output current	$I_{O(off)}$	$V_{CC} = -50V, V_I = 0$			-0.5	μA
DC current gain	G_I	$V_O = -5V, I_O = -10mA$	30			
Input resistance	R_1		3.29	4.7	6.11	k Ω
Resistance ratio	R_2/R_1		0.8	1	1.2	
Transition frequency	f_T	$V_O = -10V, I_O = -5mA, f = 100MHz$		250		MHz

Typical Characteristics

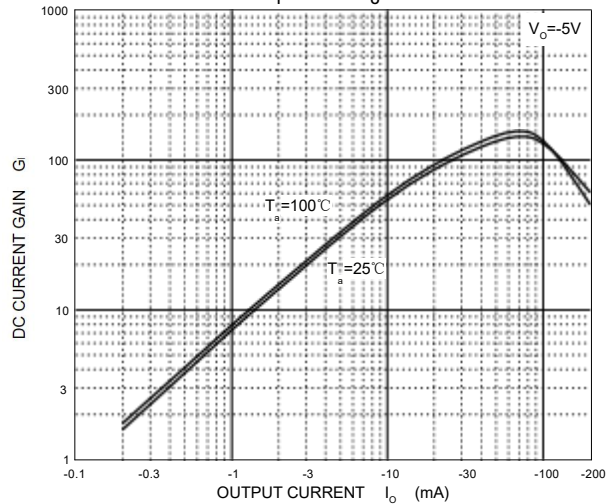
ON Characteristics



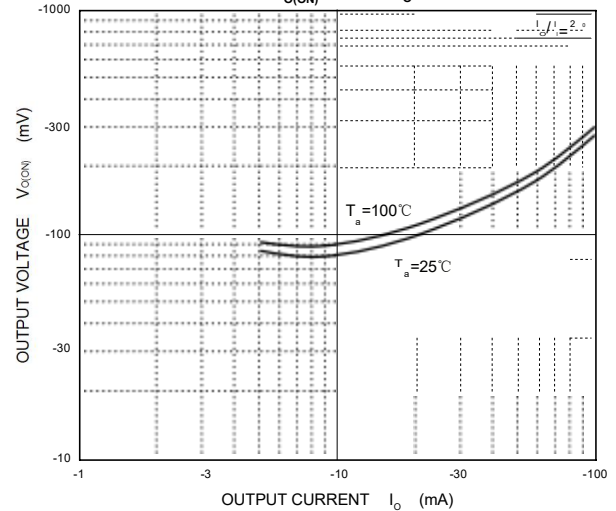
OFF Characteristics



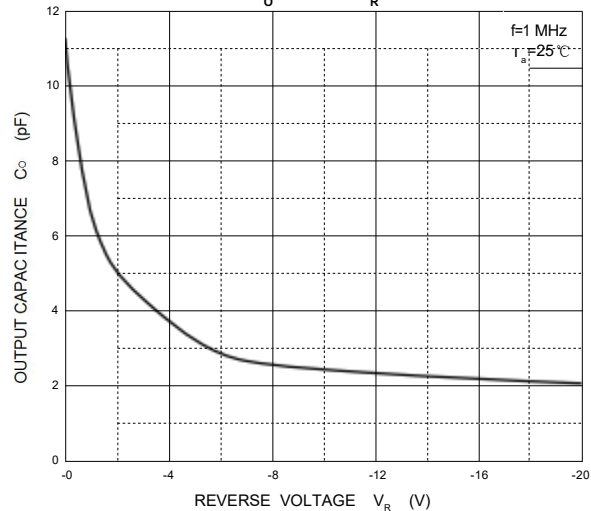
$G_I \text{ — } I_O$



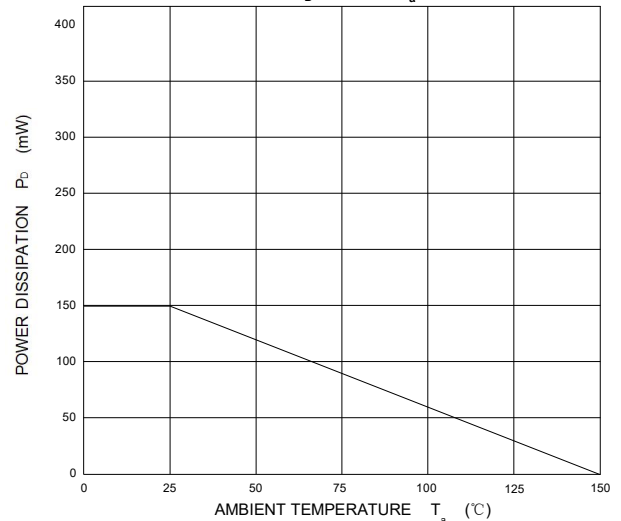
$V_{O(ON)} \text{ — } I_O$



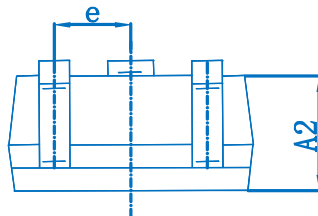
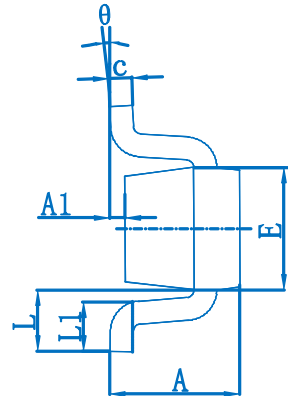
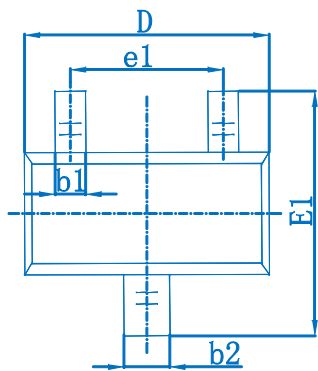
$C_O \text{ — } V_R$



$P_D \text{ — } T_a$

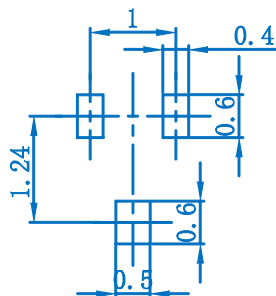


SOT-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-523 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.