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SEMICONDUCTOR



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Product data sheet



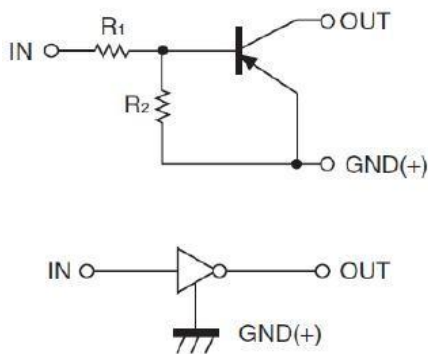
- 1. IN
- 2. GND
- 3. OUT

SOT-523

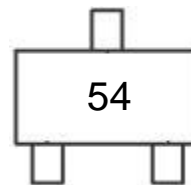
FEATURES:

- Built-in resistors enable the configuration of a inverter circuit without connecting external input resistors.
- The bias resistors consist of thin-film resistors with complete isolation to allow positive 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.
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Weight: approx. 0.002g

ELECTRICAL SYMBOL:



Marking



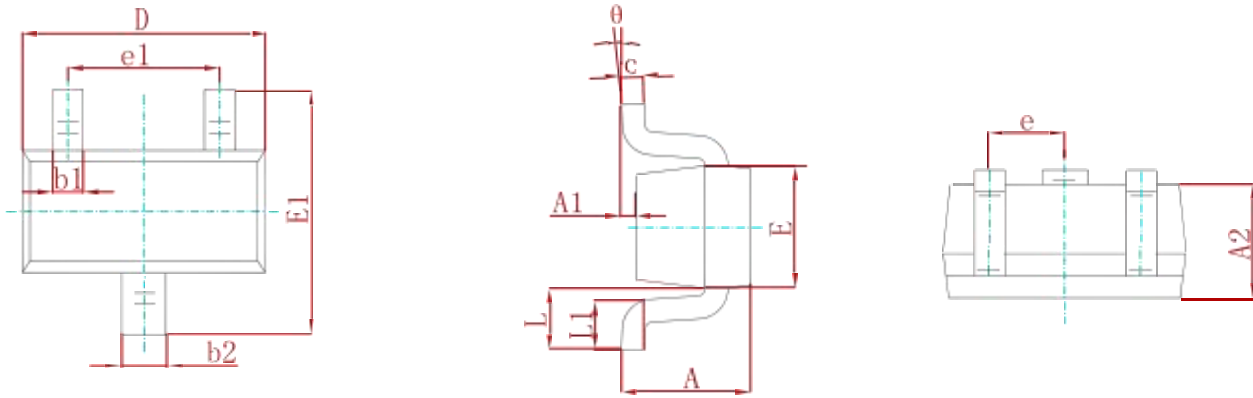
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Limits			Unit
			Min	Typ	Max	
Input Voltage	$V_{I(\text{off})}$	$V_{CC} = -5\text{V}, I_o = -100\mu\text{A}$	-0.3			V
	$V_{I(\text{on})}$	$V_o = -0.3\text{V}, I_o = -1\text{mA}$			-1.4	V
Output Voltage	$V_{O(\text{on})}$	$I_o / I_i = -5\text{mA}/-0.25\text{mA}$			-0.3	V
Input Current	I_i	$V_i = -5\text{V}$			-0.88	mA
Output Current	$I_{O(\text{off})}$	$V_{CC} = -50\text{V}, V_i = 0$			-0.5	μA
DC Current Gain	G_1	$V_o = -5\text{V}, I_o = -5\text{mA}$	68			
Input Resistance	R_1		7	10	13	K Ω
Resistance Ratio	R_2/R_1		3.7	4.7	5.7	
Transition Frequency	f_T	$V_o = -10\text{V}, I_o = -5\text{mA}$ $f=100\text{MHz}$		250		MHz

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

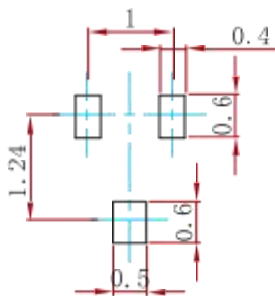
Symbol	Parameter	Value	Units
V_{CC}	Supply Voltage	-50	V
V_{IN}	Input Voltage	-40 ~ +6	V
I_o	Output Current	-70	mA
I_{CM}	Peak Collector Current	-100	mA
P_D	Power Dissipation	150	mW
T_J	Junction to Ambient	150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to +150	$^\circ\text{C}$

PACKAGE MECHANICAL DATA



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°

Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ±0.05mm.
 3. The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
DTA114YE-MS	SOT-523	3000

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