



Micro Commercial Components

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DTC124EE

NPN Digital Transistors

Features

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- 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

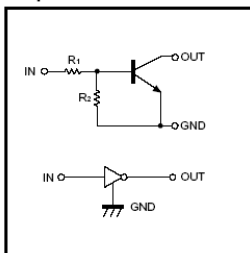
Absolute maximum ratings @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
V_{CC}	Supply voltage	---	50	---	V
V_{IN}	Input voltage	-10	---	40	V
I_o	Output current	---	30	---	mA
$I_{C(MAX)}$		---	100	---	
P_d	Power dissipation	---	150	---	mW
T_j	Junction temperature	---	150	---	°C
T_{stg}	Storage temperature	-55	---	150	°C

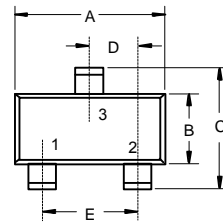
Electrical Characteristics @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
$V_{I(off)}$	Input voltage ($V_{CC}=5V, I_o=100 \mu A$)	---	---	0.5	V
$V_{I(on)}$	Input voltage ($V_o=0.2V, I_o=5mA$)	3.0	---	---	V
$V_{O(on)}$	Output voltage ($I_o/I_i=10mA/0.5mA$)	---	0.1	0.3	V
I_i	Input current ($V_i=5V$)	---	---	0.36	mA
$I_{O(off)}$	Output current ($V_{CC}=50V, V_i=0$)	---	---	0.5	μA
G_I	DC current gain ($V_o=5V, I_o=5mA$)	56	---	---	
R_1	Input resistance	15.4	22	28.6	K Ω
R_2/R_1	Resistance ratio	0.8	1.0	1.2	
f_T	Transition frequency ($V_{CE}=10V, I_E=5mA, f=100MHz$)	---	250	---	MHz

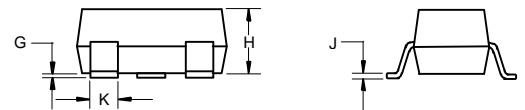
Equivalent circuit



SOT-523



1. IN
 2. GND
 3. OUT



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.059	.067	1.50	1.70	
B	.030	.033	0.75	0.85	
C	.057	.069	1.45	1.75	
D	.020 Nominal		0.50Nominal		
E	.035	.043	0.90	1.10	
G	.000	.004	.000	.100	
H	.028	.031	.70	0.80	
J	.004	.008	.100	.200	
K	.010	.014	.25	.35	