



Micro Commercial Components

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DTC124ECA

NPN Digital Transistors

Features

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- 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

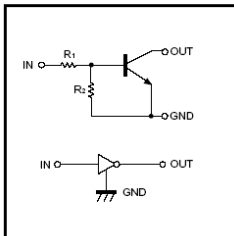
Absolute maximum ratings @ 25°C

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
$I_{C(MAX)}$	Output current	---	100	---	mA
P_d	Power dissipation	---	200	---	mW
T_J	Junction temperature	---	150	---	°C
T_{stg}	Storage temperature	-55	---	150	°C

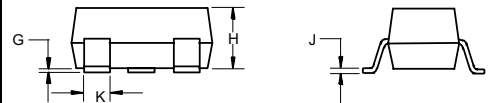
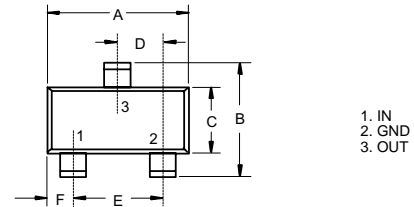
Electrical Characteristics @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
$V_{I(off)}$	Input voltage ($V_{CC}=5V, I_O=100\mu A$) ($V_O=0.2V, I_O=5mA$)	---	---	0.5	V
$V_{I(on)}$		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_1	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



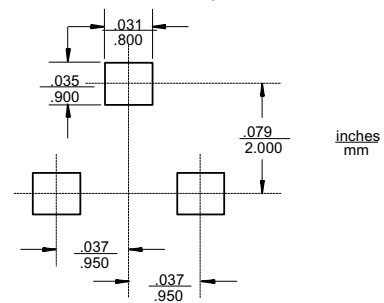
SOT-23



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout





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Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

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