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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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Micro Commercial Components

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DTC144EKA

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

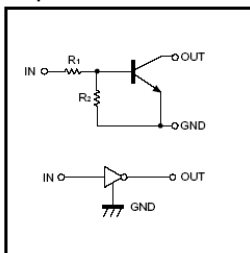
Absolute maximum ratings @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
V_{CC}	Supply voltage	---	50	---	V
V_{IN}	Input voltage	-10	---	40	V
I_O	Output current	---	100	---	mA
P_d	Power dissipation	---	200	---	mW
T_j	Junction temperature	---	150	---	°C
T_{stg}	Storage temperature	-55	---	150	°C

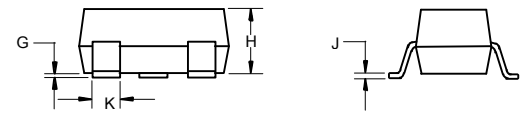
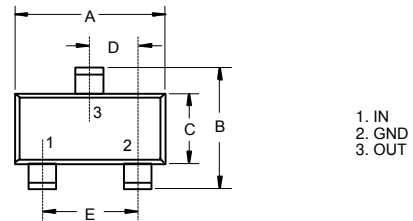
Electrical Characteristics @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
$V_{I(off)}$	Input voltage ($V_{CC}=5V, I_O=100 \mu A$)	---	---	0.5	V
$V_{I(on)}$		3.0	---	---	V
$V_{O(on)}$	Output voltage ($I_O/I_I=10mA/0.5mA$)	---	---	0.3	V
I_I	Input current ($V_I=5V$)	---	---	0.18	mA
$I_{O(off)}$	Output current ($V_{CC}=50V, V_I=0$)	---	---	0.5	μA
G_I	DC current gain ($V_O=5V, I_O=5mA$)	68	---	---	
R_I	Input resistance	32.9	47	61.1	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

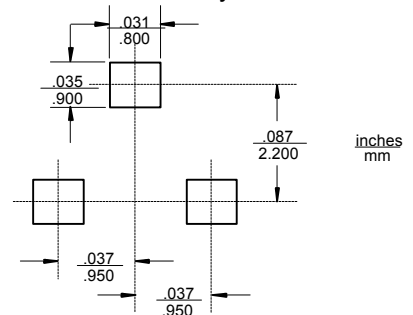


SOT-23-3L



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.113	.117	2.87	2.97	
B	.108	.112	2.75	2.85	
C	.061	.065	1.55	1.65	
D	.036	.038	.925	.975	
E	.073	.077	1.85	1.95	
G	.0016	.0039	.04	.100	
H	.044	.049	1.12	1.25	
J	.006	.007	.14	.17	
K	.013	.015	.34	.37	

Suggested Solder Pad Layout



DTC144EKA



Micro Commercial Components

● Electrical characteristic curves

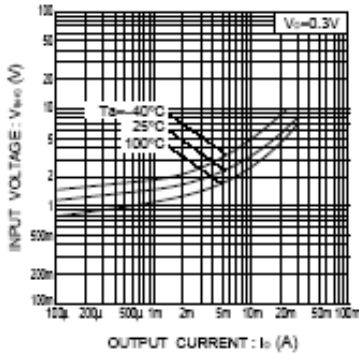


Fig.1 Input voltage vs. output current (ON characteristics)

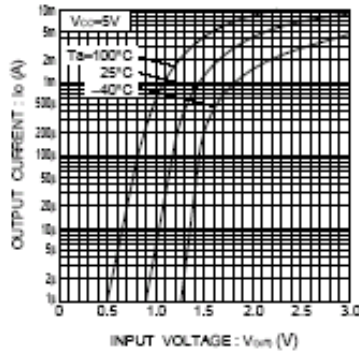


Fig.2 Output current vs. input voltage (OFF characteristics)

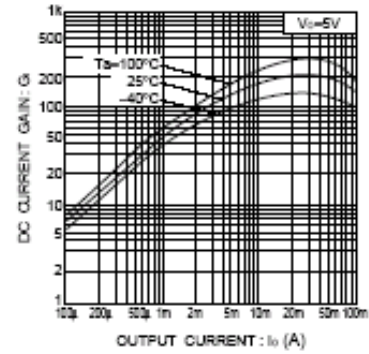


Fig.3 DC current gain vs. output current

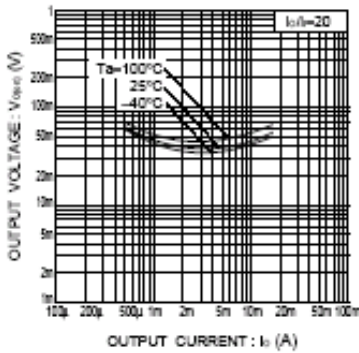


Fig.4 Output voltage vs. output current