



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# DTC124ECA

## NPN Digital Transistors

### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 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
- Halogen free available upon request by adding suffix "-HF"

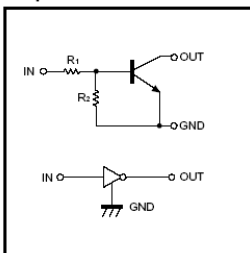
### Absolute maximum ratings @ 25°C

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
$I_{O(MAX)}$		---	100	---	
$P_d$	Power dissipation	---	200	---	mW
$T_j$	Junction temperature	---	150	---	°C
$T_{stg}$	Storage temperature	-55	---	150	°C

### Electrical Characteristics @ 25°C

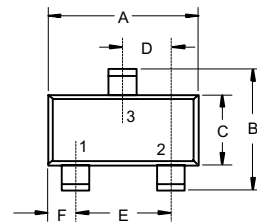
Symbol	Parameter	Min	Typ	Max	Unit
$V_{I(off)}$	Input voltage ( $V_{CC}=5V, I_O=100 \mu A$ )	---	---	0.5	V
$V_{I(on)}$	( $V_O=0.2V, I_O=5mA$ )	3.0	---	---	V
$V_{O(on)}$	Output voltage ( $I_O/I_I=10mA/0.5mA$ )	---	0.1	0.3	V
$I_I$	Input current ( $V_I=5V$ )	---	---	0.36	mA
$I_{O(off)}$	Output current (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

#### Equivalent circuit

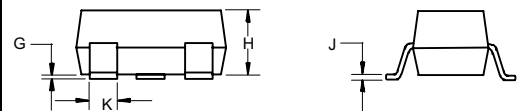


\*Marking: 25

### SOT-23

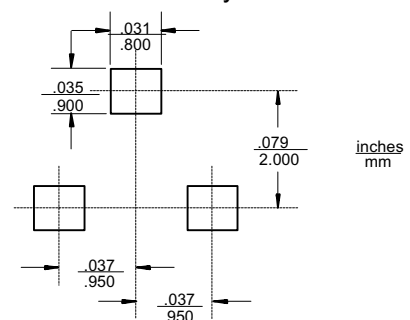


1. IN  
2. GND  
3. OUT



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	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





Micro Commercial Components

### Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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