

# DTC124EE

## 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"

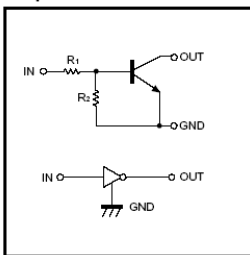
### Absolute maximum ratings @ 25°C

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

### Electrical Characteristics @ 25°C

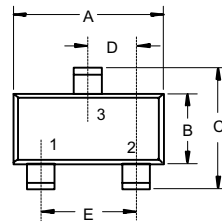
Symbol	Parameter	Min	Typ	Max	Unit
$V_{I(off)}$	Input voltage ( $V_{CC}=5V, I_o=100 \mu A$ )	---	---	0.5	V
$V_{I(on)}$	( $V_o=0.2V, I_o=5mA$ )	3.0	---	---	V
$V_{O(on)}$	Output voltage ( $I_o/I_i=10mA/0.5mA$ )	---	0.1	0.3	V
$I_i$	Input current ( $V_i=5V$ )	---	---	0.36	mA
$I_{O(off)}$	Output current ( $V_{CC}=50V, V_i=0$ )	---	---	0.5	$\mu A$
$G_1$	DC current gain ( $V_o=5V, I_o=5mA$ )	56	---	---	
$R_1$	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

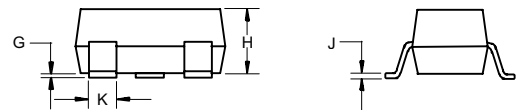


\*Marking: 25

### SOT-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		0.50 Nominal		
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	



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### 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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