

# DTC114YE

## 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"

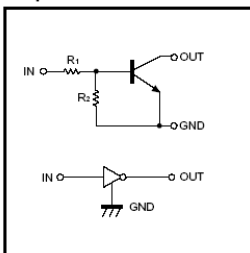
### Absolute maximum ratings @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
V <sub>CC</sub>	Supply voltage	---	50	---	V
V <sub>IN</sub>	Input voltage	-6	---	40	V
I <sub>O</sub>	Output current	---	70	---	mA
I <sub>C(MAX)</sub>		---	100	---	
P <sub>d</sub>	Power dissipation	---	150	---	mW
T <sub>j</sub>	Junction temperature	---	150	---	°C
T <sub>stg</sub>	Storage temperature	-55	---	150	°C

### Electrical Characteristics @ 25°C

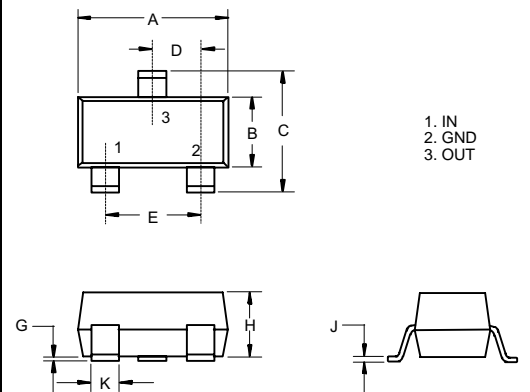
Symbol	Parameter	Min	Typ	Max	Unit
V <sub>I(off)</sub>	Input voltage (V <sub>CC</sub> =5V, I <sub>O</sub> =100 μ A)	---	---	0.3	V
V <sub>I(on)</sub>	(V <sub>O</sub> =0.3V, I <sub>O</sub> =1mA)	1.4	---	---	V
V <sub>O(on)</sub>	Output voltage (I <sub>O</sub> /I <sub>I</sub> =5mA/0.25mA)	---	0.1	0.3	V
I <sub>I</sub>	Input current (V <sub>I</sub> =5V)	---	---	0.88	mA
I <sub>O(off)</sub>	Output current (V <sub>CC</sub> =50V, V <sub>I</sub> =0)	---	---	0.5	μ A
G <sub>I</sub>	DC current gain (V <sub>O</sub> =5V, I <sub>O</sub> =5mA)	68	---	---	
R <sub>I</sub>	Input resistance	7.0	10	13	K Ω
R <sub>2</sub> /R <sub>1</sub>	Resistance ratio	3.7	4.7	5.7	
f <sub>T</sub>	Transition frequency (V <sub>CE</sub> =10V, I <sub>E</sub> =5mA, f=100MHz)	---	250	---	MHz

#### Equivalent circuit



\*Marking: 64

### SOT-523



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	



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### Ordering Information :

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

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

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