

# DTC114YUA

## 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"

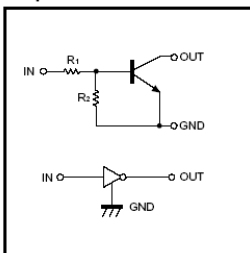
### Absolute maximum ratings @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
$V_{CC}$	Supply voltage	---	50	---	V
$V_{IN}$	Input voltage	-6	---	40	V
$I_O$	Output current	---	70	---	mA
$I_{C(MAX)}$		---	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 ( $V_{CC}=5V, I_O=100 \mu A$ )	---	---	0.3	V
$V_{I(on)}$	( $V_O=0.3V, I_O=1mA$ )	1.4	---	---	V
$V_{O(on)}$	Output voltage ( $I_O/I_I=5mA/0.25mA$ )	---	0.1	0.3	V
$I_I$	Input current ( $V_I=5V$ )	---	---	0.88	mA
$I_{O(off)}$	Output current ( $V_{CC}=50V, V_I=0$ )	---	---	0.5	$\mu A$
$G_I$	DC current gain ( $V_O=5V, I_O=5mA$ )	68	---	---	
$R_1$	Input resistance	7.0	10	13	K $\Omega$
$R_2/R_1$	Resistance ratio	3.7	4.7	5.7	
$f_T$	Transition frequency ( $V_{CE}=10V, I_E=5mA, f=100MHz$ )	---	250	---	MHz

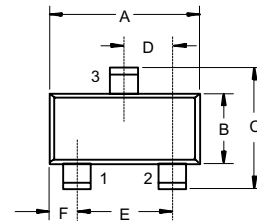
#### Equivalent circuit



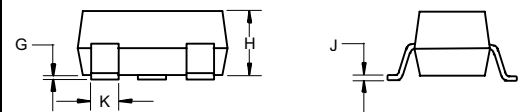
\*Marking: 64

## NPN Digital Transistors

### SOT-323

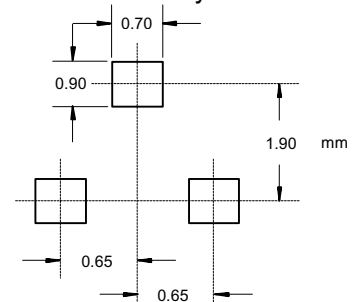


1: IN  
2: GND  
3: OUT



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.083	.096	2.10	2.45	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.006	.016	.15	.40	

#### Suggested Solder Pad Layout





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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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