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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.

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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Micro Commercial Components

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# DTC114TUA

## Features

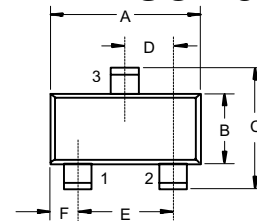
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit)
- 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

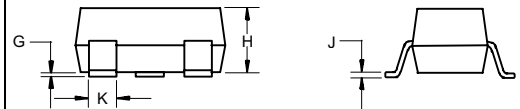
Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	50	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base voltage	$V_{EBO}$	5	V
Collector Current-Continuous	$I_C$	100	mA
Collector Dissipation	$P_C$	200	mW
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55~150	°C

## NPN Digital Transistor

### SOT-323



1: Base  
 2: Emitter  
 3: Collector



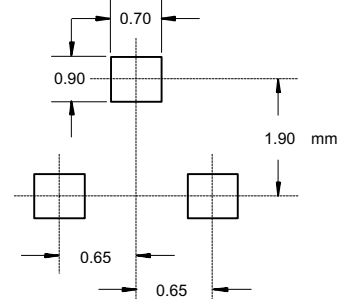
## Electrical Characteristics

Sym	Parameter	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=50\mu A, I_E=0$ )	50	---	---	V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=1mA, I_B=0$ )	50	---	---	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=50\mu A, I_C=0$ )	5	---	---	V
$I_{CBO}$	Collector Cut-off Current ( $V_{CB}=50V, I_E=0$ )	---	---	0.5	$\mu A$
$I_{EBO}$	Emitter Cut-off Current ( $V_{EB}=4V, I_C=0$ )	---	---	0.5	$\mu A$
$h_{FE}$	DC Current Gain ( $V_{CE}=5V, I_C=1mA$ )	100	300	600	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=10mA, I_B=1mA$ )	---	---	0.3	V
$R_1$	Input Resistor	7	10	13	K $\Omega$
$f_T$	Transition Frequency ( $V_{CE}=10V, I_C=-5mA, f=100MHz$ )	---	250	---	MHz

\*Marking: 04

DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
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	.012	.016	.30	.40	

### Suggested Solder Pad Layout



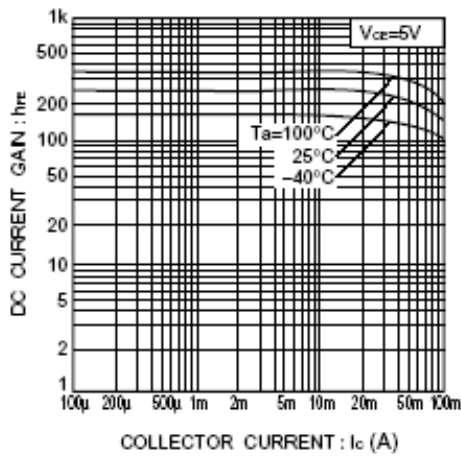


Fig.1 DC current gain vs. collector current

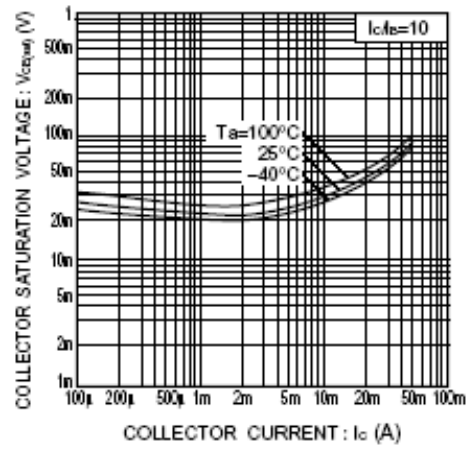
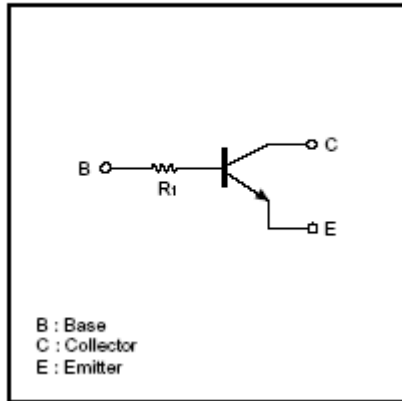


Fig.2 Collector-emitter saturation voltage vs. collector current

●Equivalent circuit





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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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