



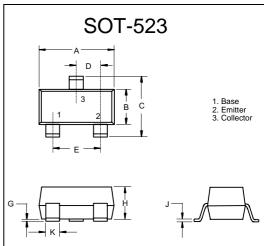
**Micro Commercial Components** 

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# DTC114TE

# **NPN Digital Transistor**



DIMENSIONS						
	INCHES		ММ			
DIM	MIN	MAX	MIN	MAX	NOTE	
Α	.059	.067	1.50	1.70		
В	.030	.033	0.75	0.85		
С	.057	.069	1.45	1.75		
D	.020 Nominal		0.50Nominal			
Е	.035	.043	0.90	1.10		
G	.000	.004	.000	.100		
Н	.028	.031	.70	0.80		
J	.004	.008	.100	.200		
K	.010	.014	.25	.35		

## **Features**

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisure 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

#### **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	Ic	100	mA	
Collector Dissipation	Pc	150	mW	
Junction Temperature	TJ	150	°C	
Storage Temperature Range	T <sub>STG</sub>	-55~150	$^{\circ}\mathbb{C}$	

#### **Electrical Characteristics**

Sym	Parameter	Min	Тур	Max	Unit
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I <sub>C</sub> =50uA, I <sub>E</sub> =0)	50			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (I <sub>C</sub> =1mA, I <sub>B</sub> =0)	50			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I <sub>E</sub> =50uA, I <sub>C</sub> =0)	5			V
I <sub>CBO</sub>	Collector Cut-off Current $(V_{CB}=50V, I_E=0)$			0.5	uA
I <sub>EBO</sub>	Emitter Cut-off Current (V <sub>EB</sub> =4V, I <sub>C</sub> =0)			0.5	uA
h <sub>FE</sub>	DC Current Gain (V <sub>CE</sub> =5V, I <sub>C</sub> =1mA)	100	300	600	
$V_{\text{CE(sat)}}$	Collector-Emitter Saturation Voltage (I <sub>C</sub> =10mA, I <sub>B</sub> =1mA)			0.3	V
R <sub>1</sub>	Input Resistor	7	10	13	ΚΩ
f <sub>T</sub>	Transition Frequency (V <sub>CE</sub> =10V, I <sub>C</sub> =-5mA, f=100MHz)		250		MHz

<sup>\*</sup>Marking: 04

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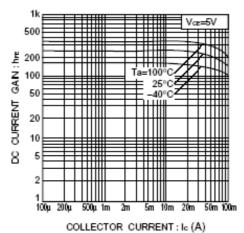


Fig.1 DC current gain vs. collector current

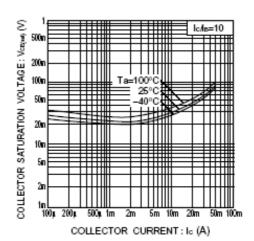
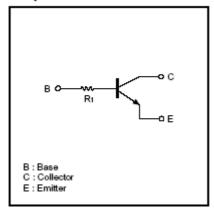


Fig.2 Collector-emitter saturation voltage vs. collector current

### ●Equivalent circuit





#### **Micro Commercial Components**

#### **Ordering Information:**

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

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