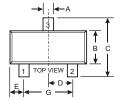


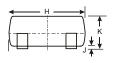
# DTC114TCA

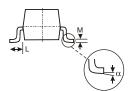
#### NPN SILICON EPITAXIAL PLANAR DIGITAL TRANSISTOR

### **Features**

- 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
- Marking Code:04







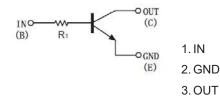
Dim	Min Max						
Α	0.37	0.51					
В	1.20	1.40					
С	2.30	2.50					
D	0.89	1.03					
Е	0.45	0.60					
G	1.78	2.05					
Н	2.80	3.00					
J	0.013	0.10					
K	0.903	1.10					
L	0.45	0.61					
M	0.085	0.180					
α	0°	8°					
All Dimensions in mm							

SOT-23

### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

Symbol	Parameter	Limits	Unit	
V <sub>CBO</sub>	Collector-Base Voltage	50	V	
V <sub>CEO</sub>	Collector-Emitter Voltage	50	V	
V <sub>EBO</sub>	Emitter-Base Voltage	5	V	
Ic	Collector Current-Continuous	100	mA	
P <sub>D</sub>	Power Dissipation	Dissipation 200 m		
<b>T</b> <sub>j</sub>	Junction Temperature	150	$^{\circ}$	

### **Equivalent Circuit**



### Electrical Characteristics @ TA = 25°C unless otherwise specified

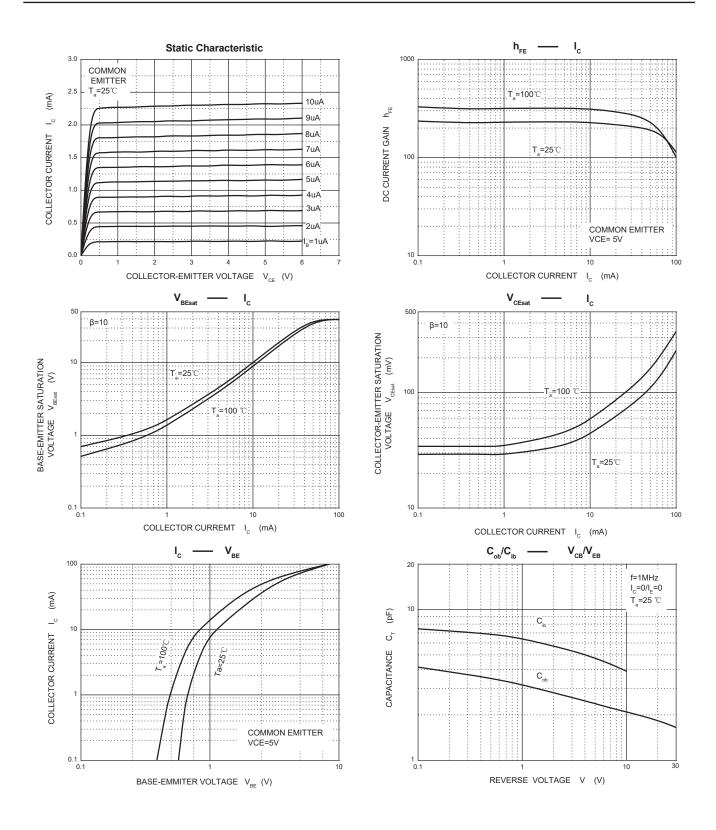
Parameter	Symbol	Conditions	Min	Тур	Max	Unit	
Collector-base breakdown voltage	$V_{(BR)CBO}$	Ic=50μA,I <sub>E</sub> =0	50			V	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	Ic=1mA,I <sub>B</sub> =0	50			V	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I <sub>E</sub> =50μA,I <sub>C</sub> =0	5			V	
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =50V,I <sub>E</sub> =0			0.5	μA	
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =4V,I <sub>C</sub> =0			0.5	μΑ	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =10mA,I <sub>B</sub> =1mA			0.3	V	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =5V,I <sub>C</sub> =1mA	100	300	600		
Input resistor	R <sub>1</sub>		7	10	13	kΩ	
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V,I <sub>E</sub> =-5mA, f=100MHz		250		MHz	



# DTC114TCA

### NPN SILICON EPITAXIAL PLANAR DIGITAL TRANSISTOR

### **TYPICAL TRANSIENT CHARACTERISTICS**





# DTC114TCA

#### NPN SILICON EPITAXIAL PLANAR DIGITAL TRANSISTOR

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