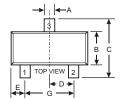
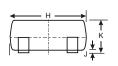


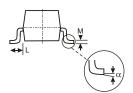
### NPN SILICON EPITAXIAL PLANAR DIGITAL TRANSISTOR

### **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:E23







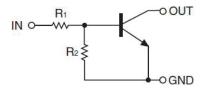
Dim	Min	Max			
Α	0.37	0.51			
В	1.20	1.40			
С	2.30	2.50			
D	0.89	1.03			
E	0.45	0.60			
G	1.78	2.05			
Н	2.80	3.00			
J	0.013	0.10			
K	0.903	1.10			
L	0.45	0.61			
M	0.085	0.180			
α	0°	8°			
All Dimensions in mm					

SOT-23

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

Symbol	Parameter	Limits	Unit	
Vcc	Supply Voltage	50	V	
V <sub>IN</sub>	Input Voltage	<b>-</b> 5∼ <b>+</b> 30	V	
lo	Output Current	100	mA	
P <sub>D</sub>	Power Dissipation	200	mW	
T <sub>j</sub>	Junction Temperature	150	°C	
T <sub>stg</sub>	Storage Temperature	<i>-</i> 55∼+150	℃	

### **Equivalent Circuit**



1. IN 2. GND 3. OUT

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

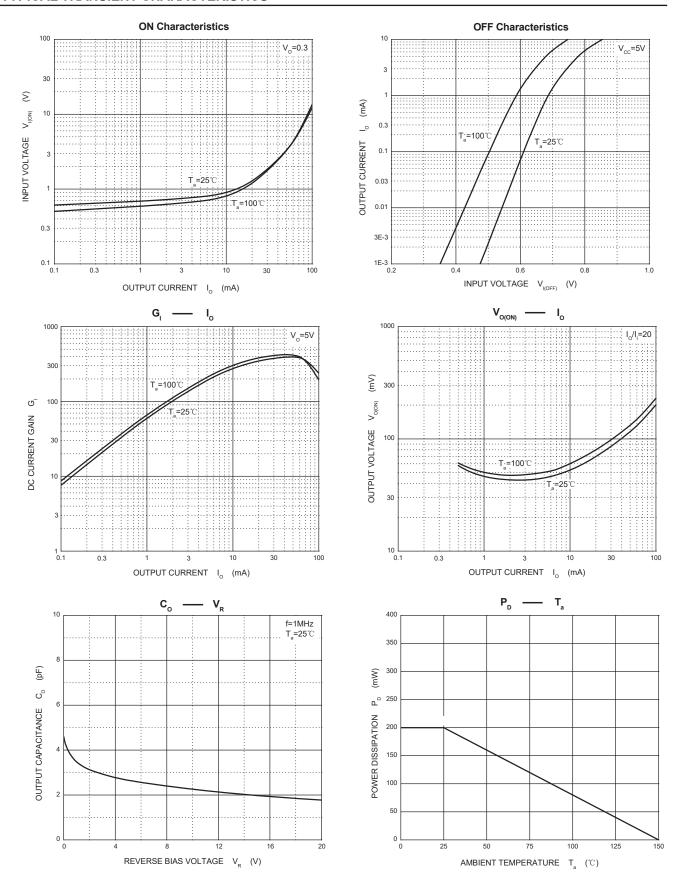
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Input voltage	$V_{I(off)}$	V <sub>CC</sub> =5V,I <sub>O</sub> =100μA	0.5			V
	V <sub>I(on)</sub>	V <sub>O</sub> =0.3V,I <sub>O</sub> =5mA			1.3	V
Output voltage	$V_{O(on)}$	I <sub>O</sub> /I <sub>I</sub> =5mA/0.25mA			0.3	V
Input current	l <sub>i</sub>	V <sub>I</sub> =5V			1.8	mA
Output current	I <sub>O(off)</sub>	V <sub>CC</sub> =50V,V <sub>I</sub> =0			0.5	μA
DC current gain	Gı	Vo=5V,Io=10mA	80			
Input resistance	R <sub>1</sub>		3.29	4.7	6.11	kΩ
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>		8	10	12	
Transition frequency	f⊤	V <sub>O</sub> =10V,I <sub>O</sub> =5mA,f=100MHz		250		MHz



# DTC143ZCA

### NPN SILICON EPITAXIAL PLANAR DIGITAL TRANSISTOR

### **TYPICAL TRANSIENT CHARACTERISTICS**







### NPN SILICON EPITAXIAL PLANAR DIGITAL TRANSISTOR

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