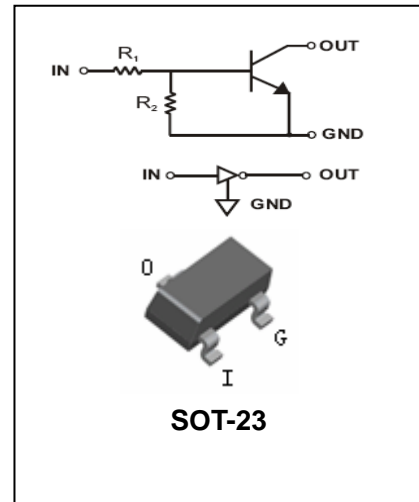


## Digital Transistor

## DTC143ECA

### FEATURES

- Built-in bias resistor 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.



### APPLICATIONS

- The NPN style digital transistor.

### ORDERING INFORMATION

Type No.	Marking	Package Code
DTC143ECA	23	SOT-23

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V <sub>CC</sub>	Supply Voltage	50	V
V <sub>IN</sub>	Input Voltage	10 to 30	V
I <sub>O</sub>	Output Current	100	mA
P <sub>D</sub>	Power Dissipation	200	mW
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient Air	833	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operating and Storage and Temperature Range	-55 to +150	°C

### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

## Digital Transistor

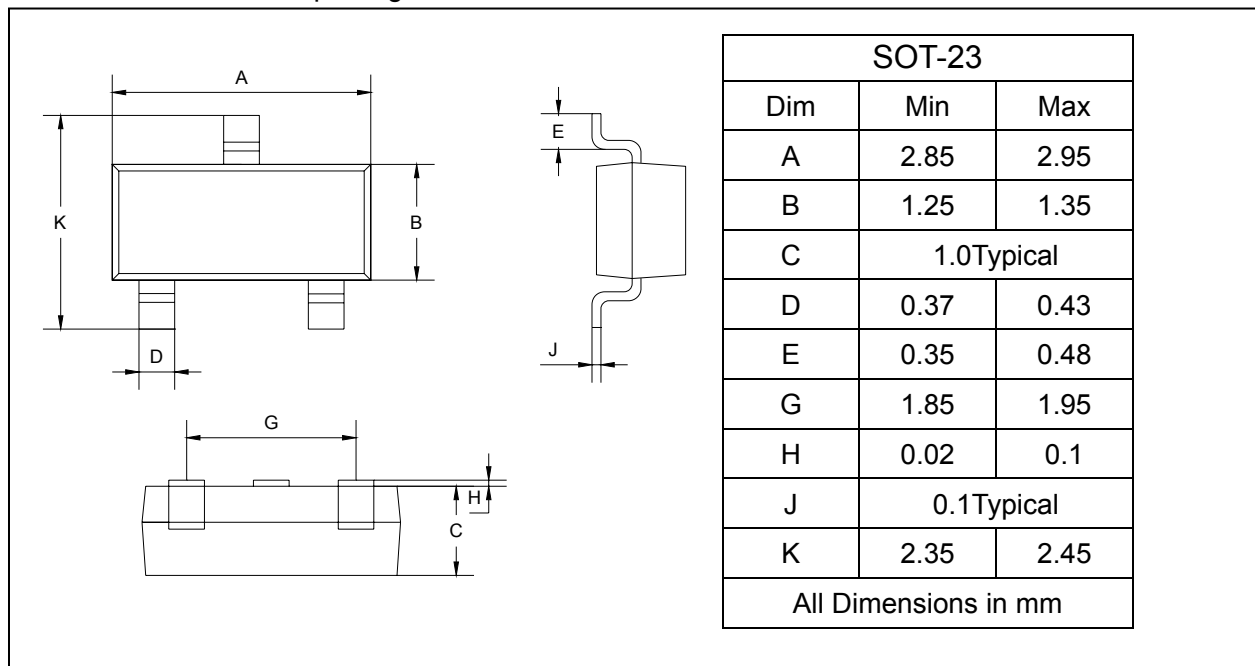
## DTC143ECA

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Input Voltage	$V_{I(off)}$	$V_{CC}=5V, I_O=100\mu A$	0.5	1.1	-	V
	$V_{I(on)}$	$V_O=0.3V, I_O=20mA$	-	1.9	3	
Output Voltage	$V_{O(on)}$	$I_O/I_I=10mA/0.5mA,$	-	0.1	0.3	V
Input Current	$I_I$	$V_I=5V$	-	-	1.8	mA
Output Current	$I_{O(off)}$	$V_{CC}=50V, V_I=0V$	-	-	0.5	$\mu A$
DC Current Gain	$G_I$	$V_O=5V, I_O=10mA$	20	-	-	
Input Resistor ( $R_1$ ) Tolerance	$DR_1$	-	30	-	30	%
Resistance Ratio	$R_2/R_1$	-	0.8	1	1.2	-
Gain-Bandwidth Product	$f_T$	$V_{CE}=10V, I_E=5mA,$ $f=100MHz$	-	250	-	MHz

### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



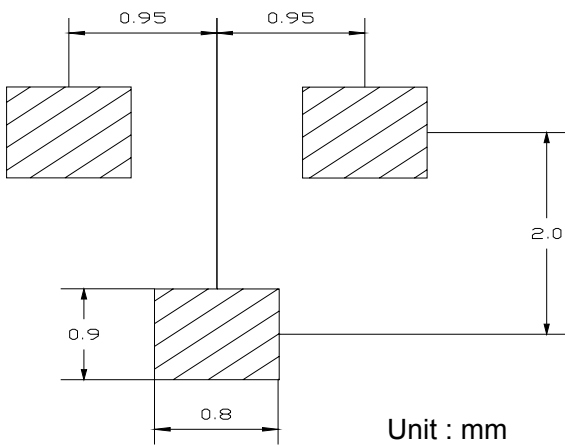
### SOLDERING FOOTPRINT

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## Digital Transistor

## DTC143ECA

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### PACKAGE INFORMATION

Device	Package	Shipping
DTC143ECA	SOT-23	3000/Tape&Reel