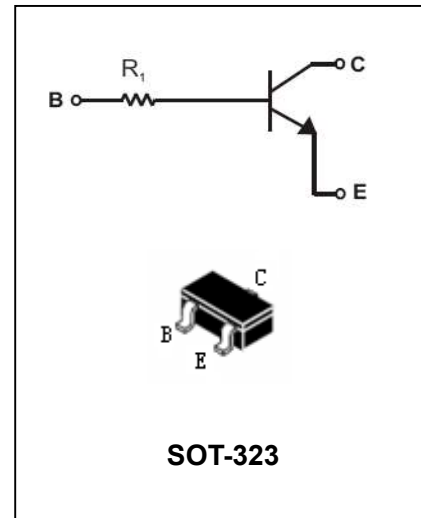


## Digital Transistor

## DTC(R<sub>1</sub>-only SERIES)UA

### FEATURES

- Epitaxial planar die construction.
- Complementary PNP types available(DTA).
- Built-in biasing resistor,R<sub>1</sub> only.
- Also available in lead free version.



### APPLICATIONS

- The NPN style digital transistor.

### ORDERING INFORMATION

Type No.	Marking	Package Code
DTC143TUA	43	SOT-323
DTC114TUA	04	SOT-323
DTC144TUA	06	SOT-323

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

Symbol	Parameter	Value	Units
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
I <sub>C(Max.)</sub>	Collector Current	100	mA
P <sub>D</sub>	Power Dissipation	200	mW
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient Air	625	°C/W
T <sub>J</sub> , T <sub>STG</sub>	Operating and Storage and Temperature Range	-55 to +150	°C

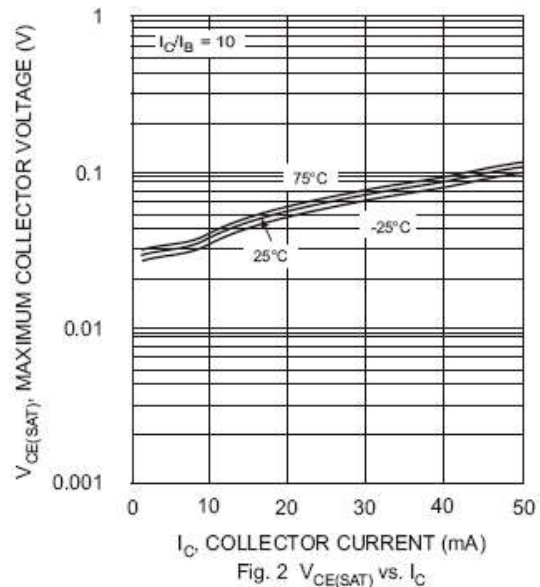
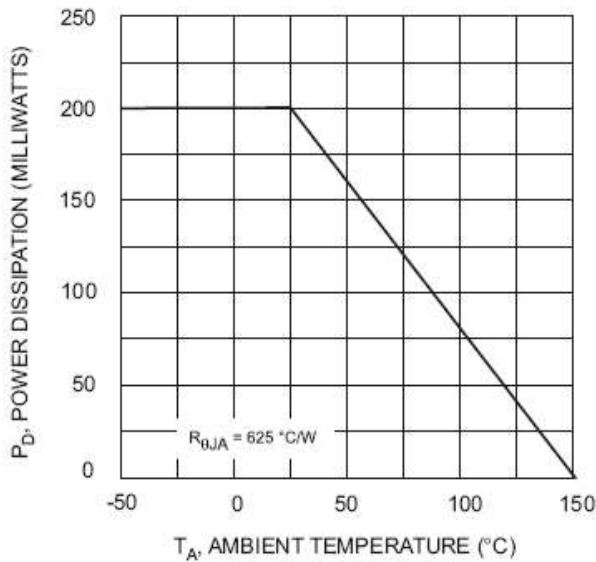
Digital Transistor

**DTC(R<sub>1</sub>-only SERIES)UA**

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Base breakdown Voltage	BV <sub>CBO</sub>	I <sub>C</sub> =50μA	50			V
Collector-Emitter breakdown Voltage	BV <sub>CEO</sub>	I <sub>C</sub> =1mA	50			V
Emitter-Base breakdown Voltage	BV <sub>EBO</sub>	I <sub>E</sub> =50μA	5			V
Collector cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =50V	-	-	0.5	μA
Emitter cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V	-	-	0.5	μA
Collector-Emitter saturation voltage DTC143TUA DTC114TUA DTC144TUA	V <sub>CE(sat)</sub>	I <sub>C</sub> /I <sub>B</sub> =2.5mA/0.25mA I <sub>C</sub> /I <sub>B</sub> =1mA/0.1mA I <sub>C</sub> /I <sub>B</sub> =2.5mA/0.25mA			0.3	V
DC Current Gain	h <sub>FE</sub>	I <sub>C</sub> =1mA, V <sub>CE</sub> =5V	100	250	600	
Input Resistor(R <sub>1</sub> ) DTC143TUA DTC114TUA DTC144TUA	R <sub>1</sub>			4.7 10 47		kΩ
Input Resistor(R <sub>1</sub> )Tolerance	ΔR <sub>1</sub>		-30		+30	%
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>E</sub> =5mA, f=100MHz	-	250	-	MHz

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



Digital Transistor

DTC(R<sub>1</sub>-only SERIES)UA

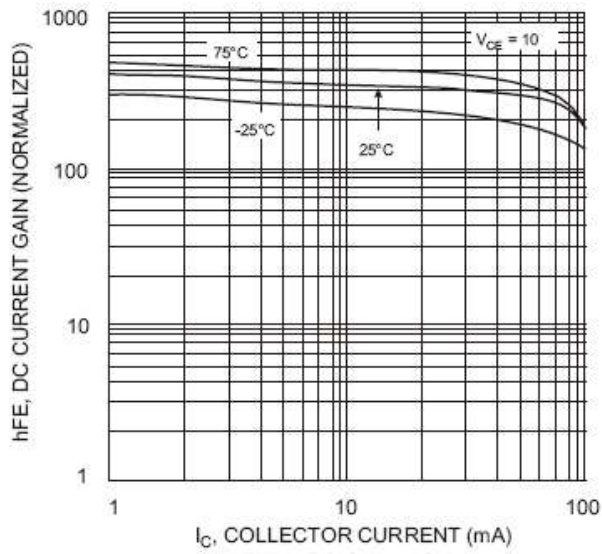


Fig. 3 DC Current Gain

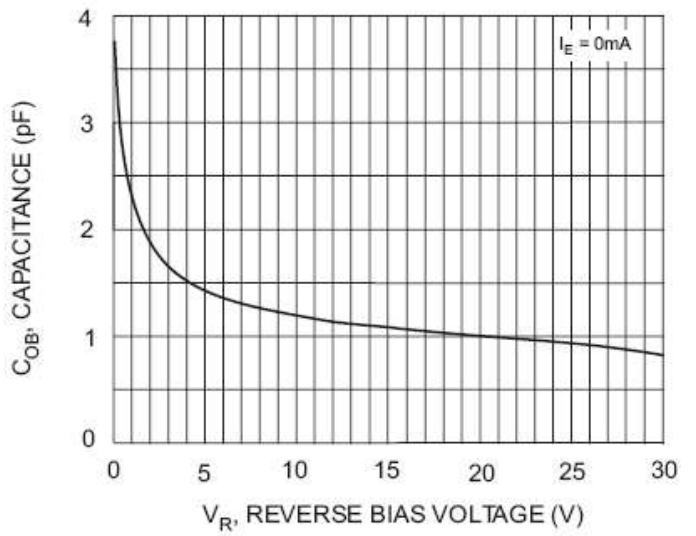


Fig. 4 Output Capacitance

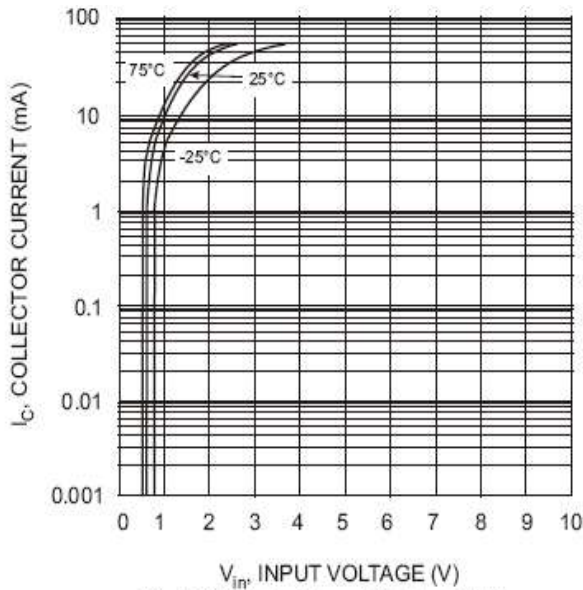


Fig. 5 Collector Current Vs. Input Voltage

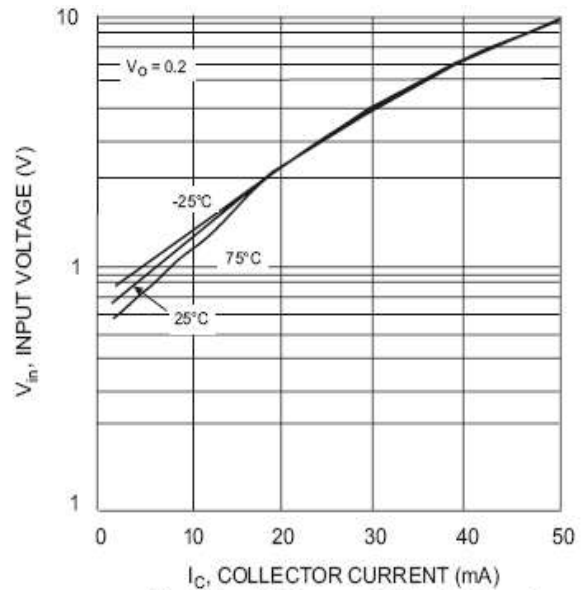


Fig. 6 Input Voltage vs. Collector Current

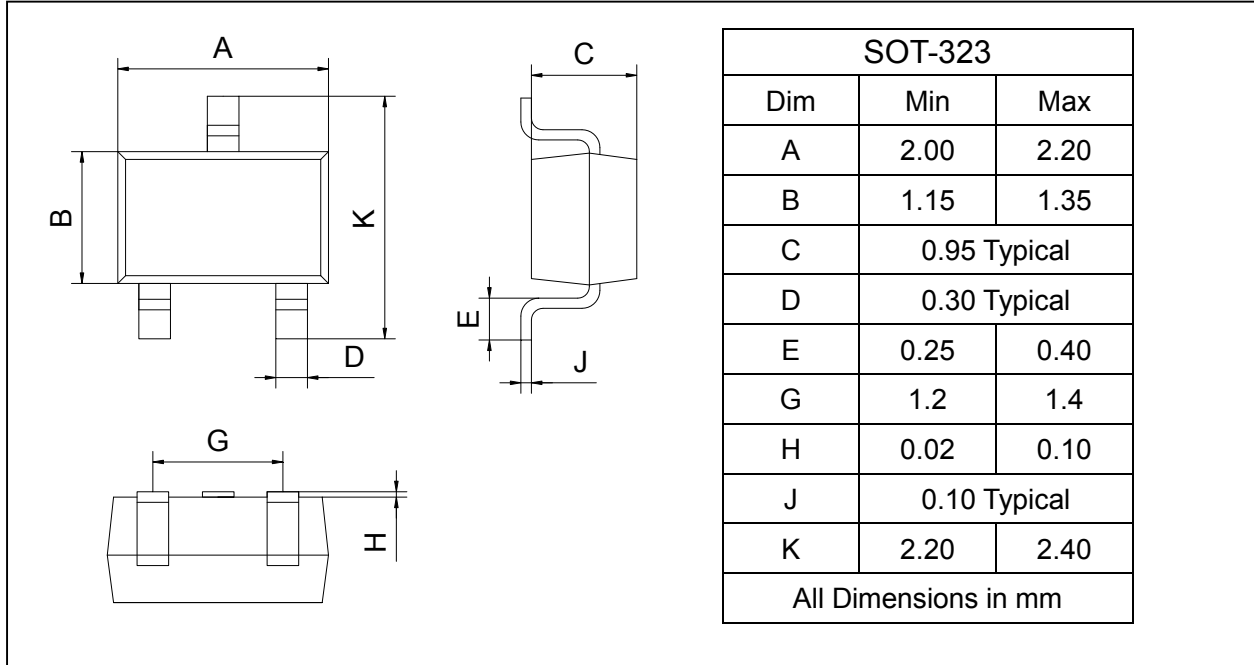
## Digital Transistor

## DTC(R<sub>1</sub>-only SERIES)UA

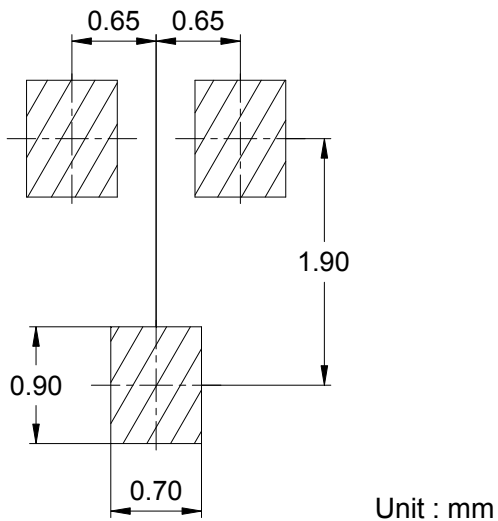
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
DTCXXXTUA	SOT-323	3000/Tape&Reel