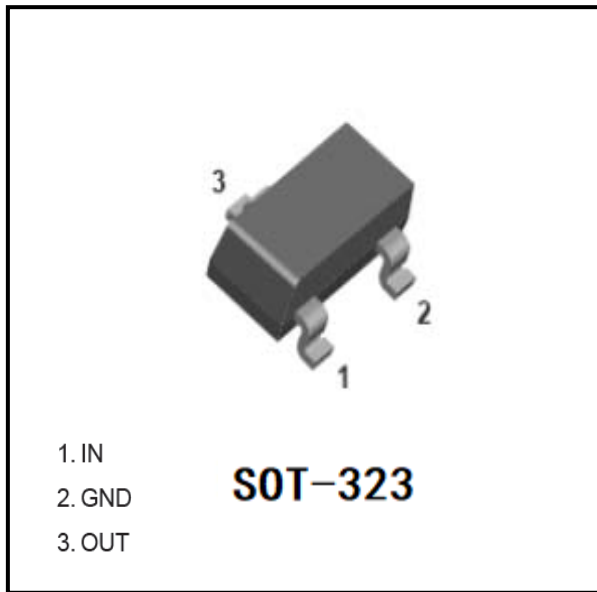


## Digital Transistors (Built-in Resistors)



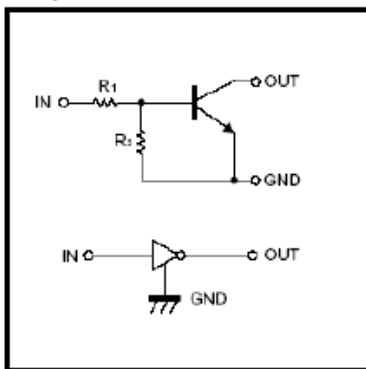
### Features

- Epoxy meets UL-94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- Surface mount package ideally Suited for Automatic Insertion
- NPN

### Mechanical Data

- **Package:** SOT-323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:** 24

### ■Equivalent circuit



### ■Maximum Ratings (Ta=25°C Unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	VALUE
Supply Voltage	VCC	V		50
Input Voltage	VIN	V		-10 to +40
Output Current	IO	mA		100
Power Dissipation	PD	mW		200
Junction Temperature	Tj	°C		150
Storage Temperature	TSTG	°C		-55 to +150



# DTC114EUA

## ■ Electrical Characteristics (Ta=25°C unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Input voltage	$V_{I(off)}$	V	VCC=5V, Ic=100uA Vo=0.3V, Ic=10mA	0.5		
	$V_{I(on)}$	V				3
Output voltage	$V_{O(on)}$	V	Io /Ii =10mA/0.5 mA			0.3
Output current	$I_{O(off)}$	uA	VCC=50V, Vi=0			0.1
DC current gain	GI		Vo=5V, Io =5mA	30		
Input resistance	$R_1$	kΩ		7	10	13
Resistance ratio	$R_2/R_1$			0.8	1	1.2
Transition frequency	fT	MHz	Vo=10V, IO=5mA, f=100MHz		250	

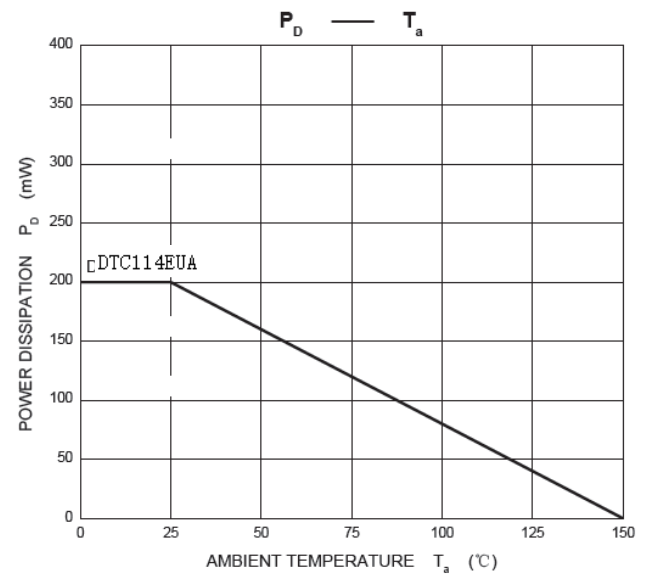
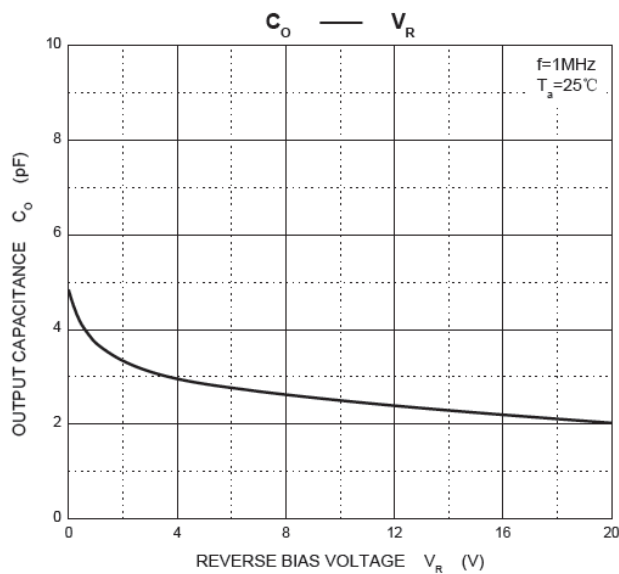
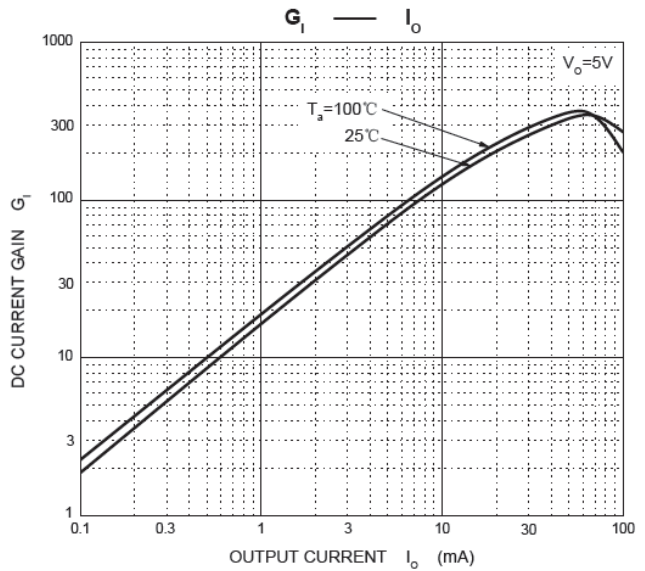
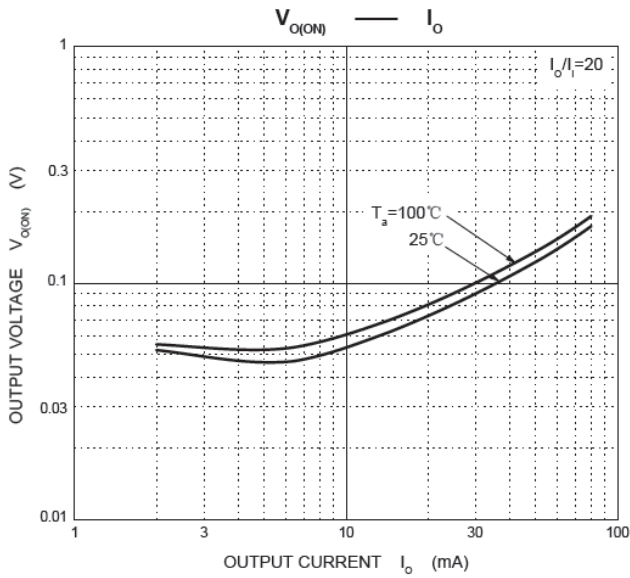
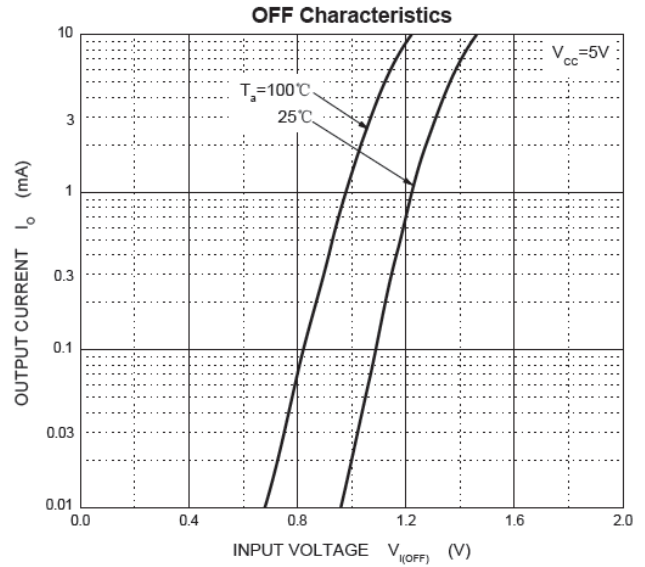
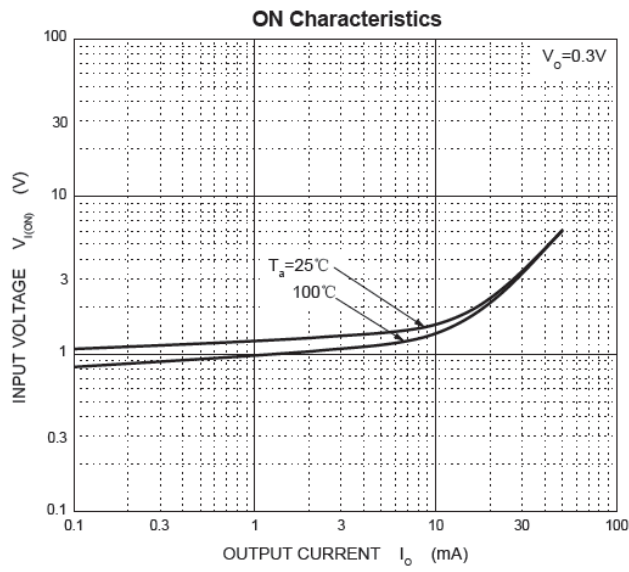
## ■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
DTC114EUA	F2	Approximate 0.005	3000	30000	120000	7" reel



# DTC114EUA

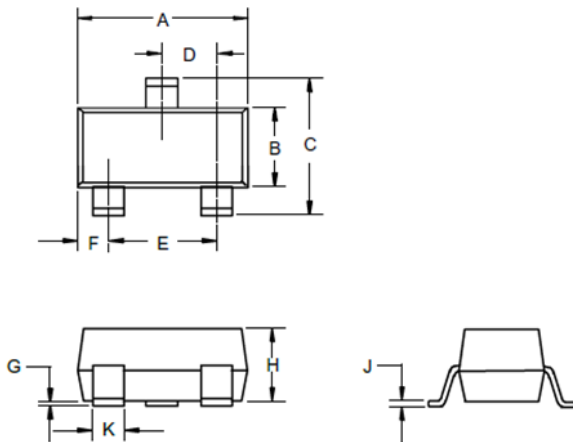
## ■ Characteristics (Typical)





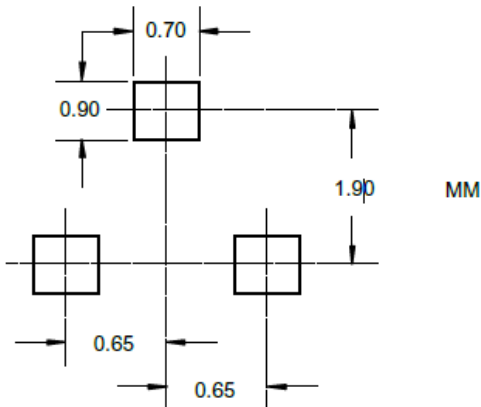
# DTC114EUA

## ■ SOT-323 Package Outline Dimensions



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.083	.096	2.10	2.45	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.006	.016	.15	.40	

## ■ SOT-323 Suggested Pad Layout



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