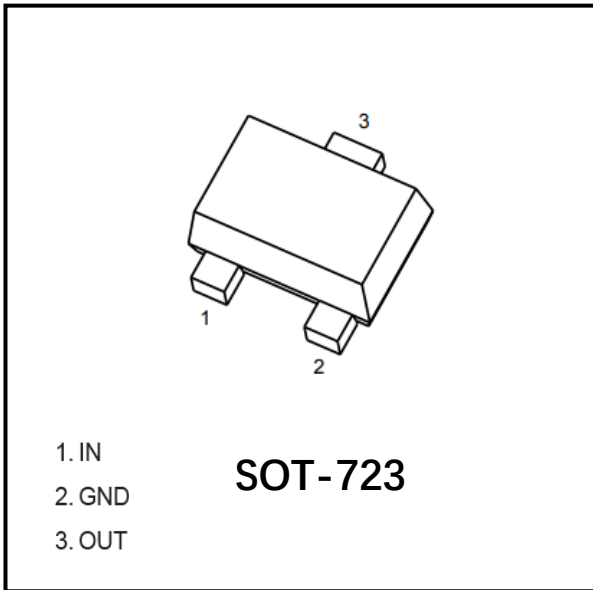


## Digital Transistors (Built-in Resistors)



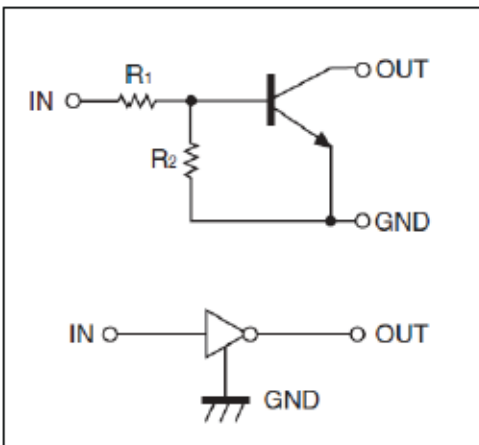
### Features

- 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-723
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **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		-5 to +30
Output Current	IO	mA		100
Power Dissipation	PD	mW		100
Junction Temperature	Tj	°C		150
Storage Temperature	TSTG	°C		-55 to +150



# DTC114EM

## ■ 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	

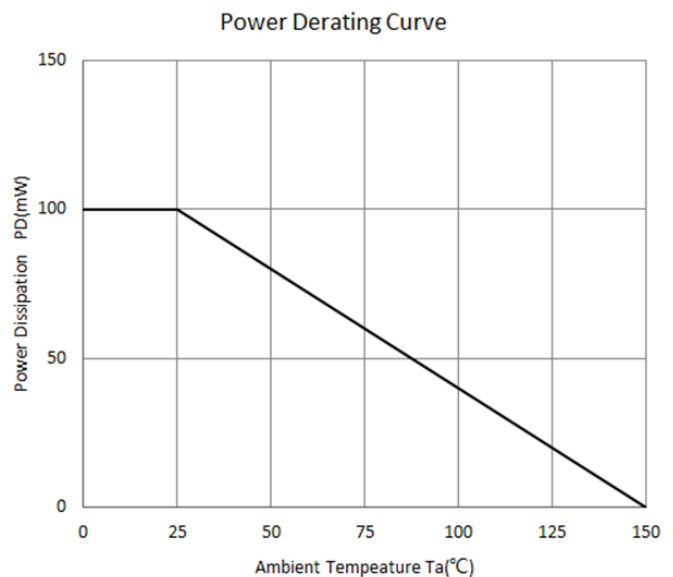
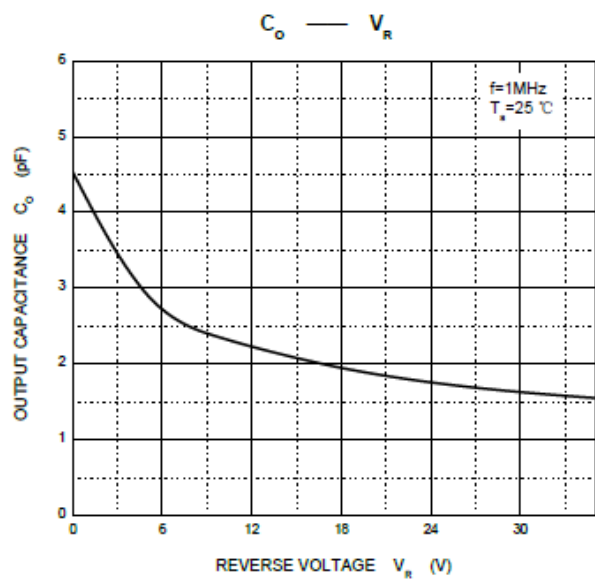
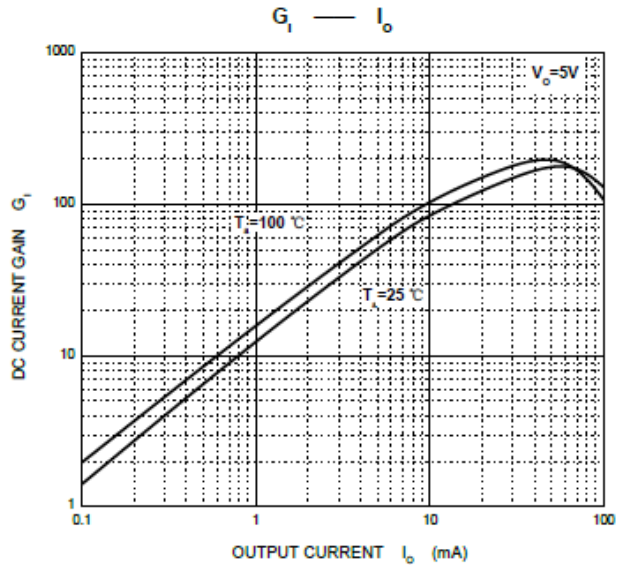
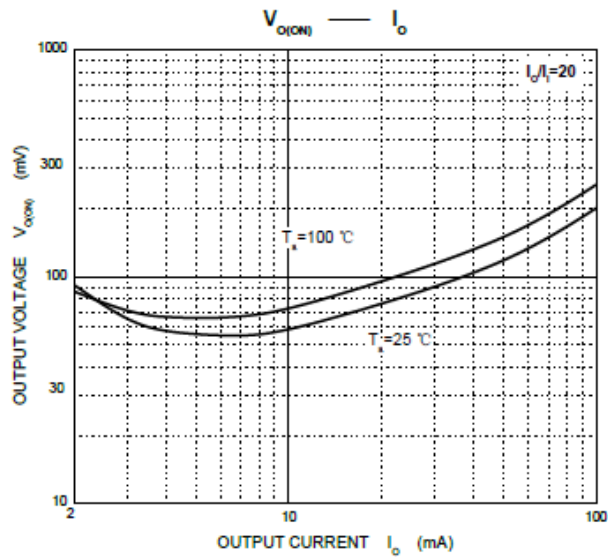
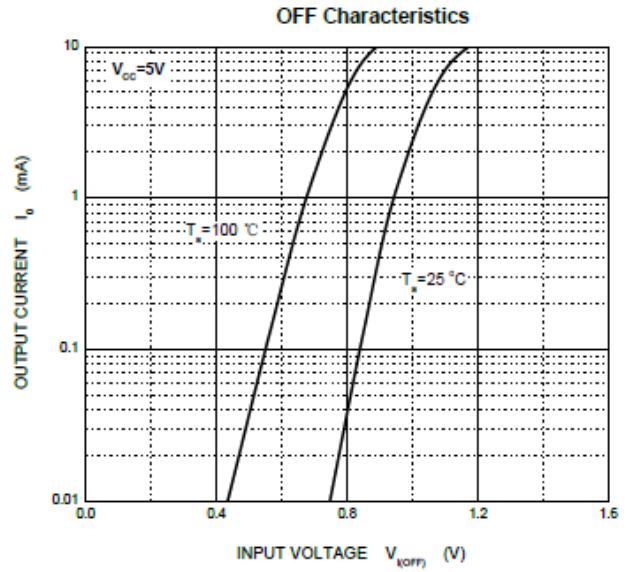
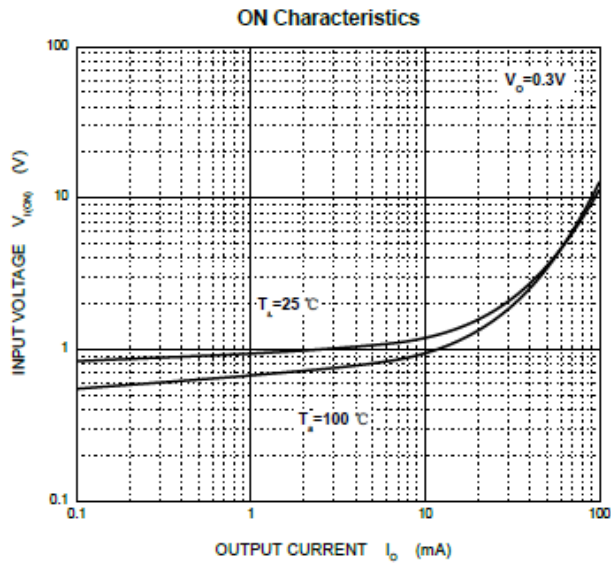
## ■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
DTC114EM	F2	Approximate 0.0013	8000	80000	320000	7" reel



# DTC114EM

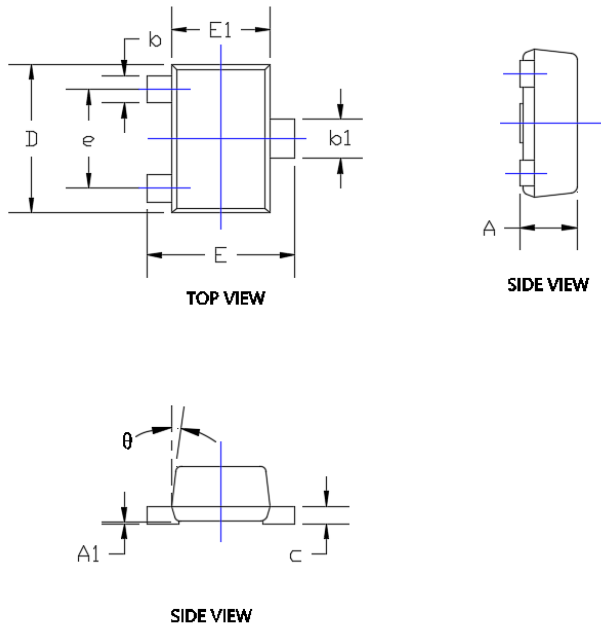
## ■ Characteristics (Typical)





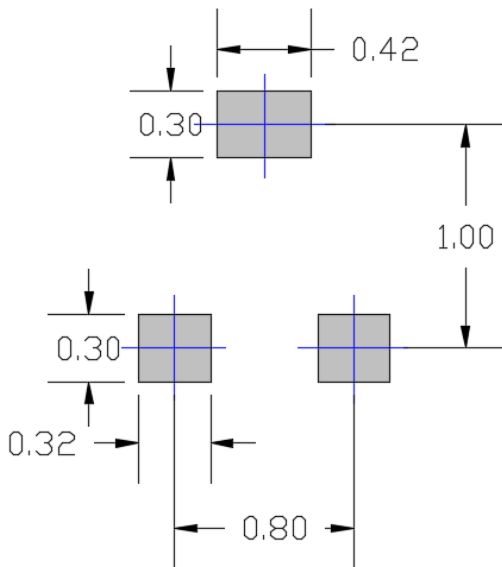
# DTC114EM

## ■SOT-723 Package Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.017	0.022	0.430	0.550
A1	0.000	0.002	0.000	0.050
b	0.007	0.011	0.170	0.270
b1	0.011	0.015	0.270	0.370
c	0.003	0.008	0.080	0.200
D	0.045	0.049	1.150	1.250
E	0.045	0.049	1.150	1.250
E1	0.030	0.033	0.750	0.850
e	0.031TYP.		0.800TYP.	
$\theta$	7°REF.		7°REF.	

## ■SOT-723 Suggested Pad Layout



### Note:

1. Package Body Sizes Exclude Mold Flash And Gate Burrs.
2. Tolerance 0.1mm Unless Otherwise Specified.
3. The Pad Layout Is For Reference Purposes Only.



## DTC114EM

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