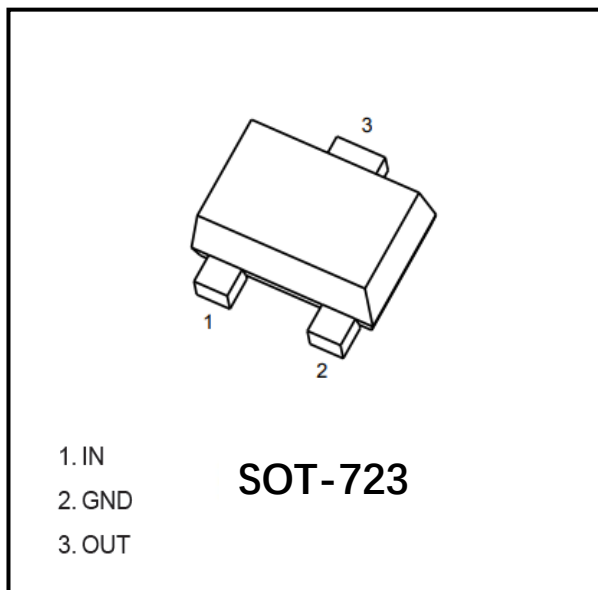


Digital Transistors (Built-in Resistors)



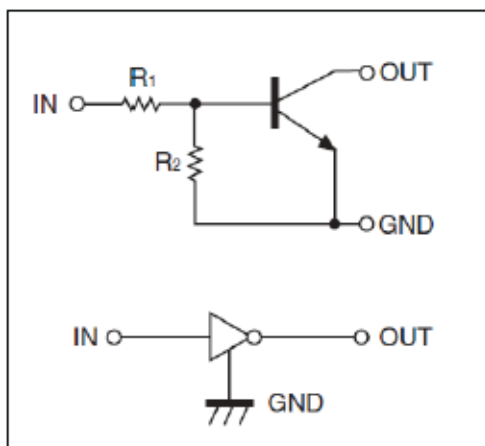
Features

- 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:** 23

■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 +30
Output Current	IO	mA		100
Power Dissipation	PD	mW		100
Junction Temperature	Tj	°C		150
Storage Temperature	TSTG	°C		-55 to +150

DTC143EM

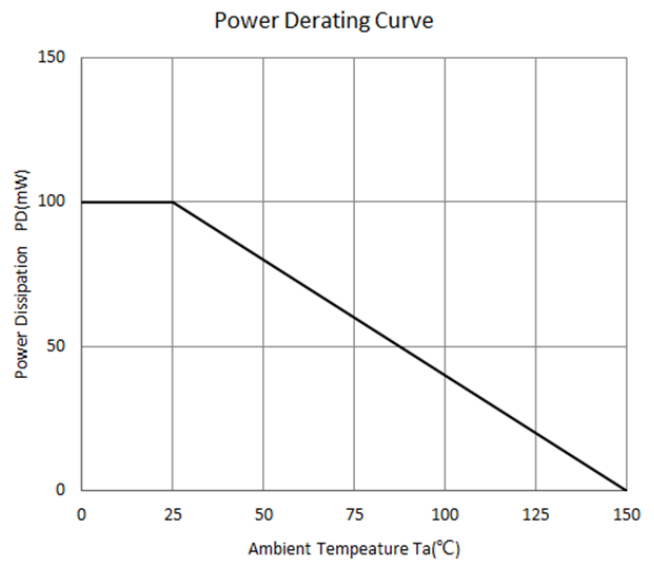
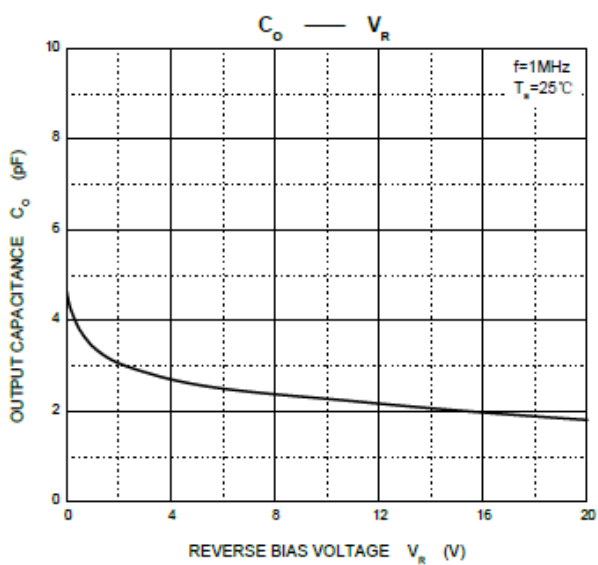
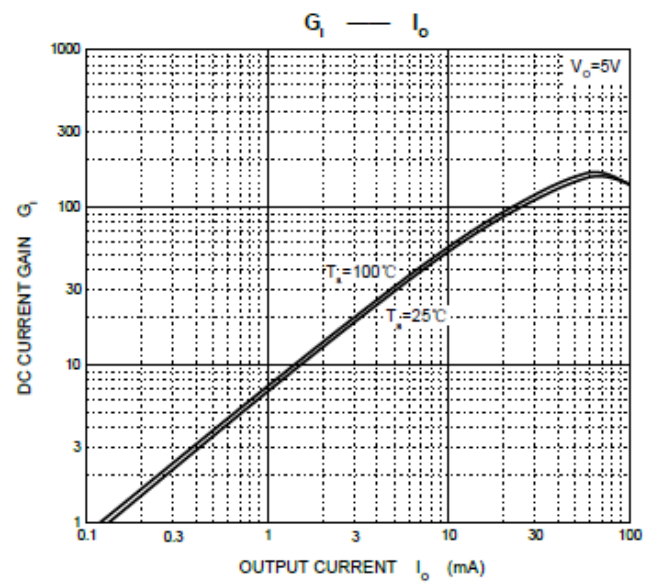
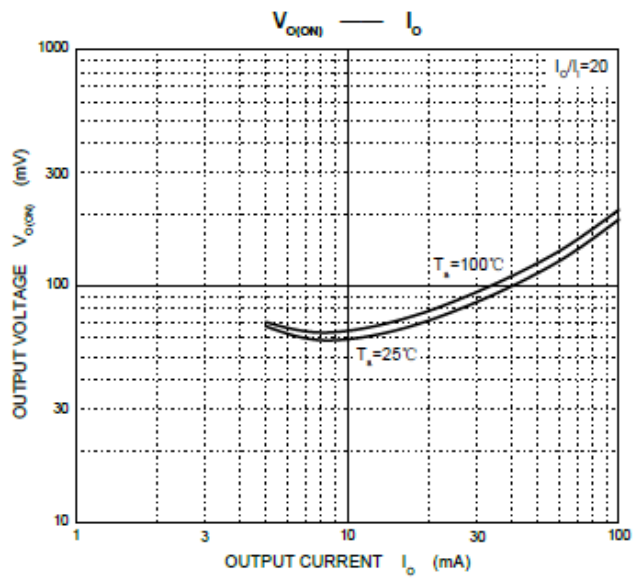
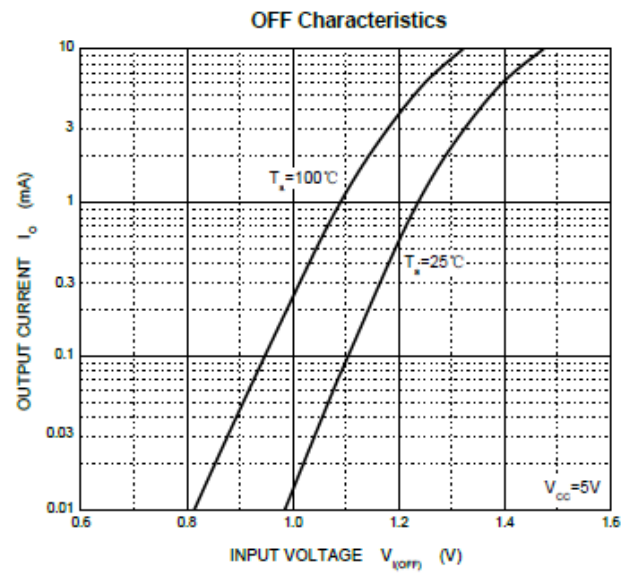
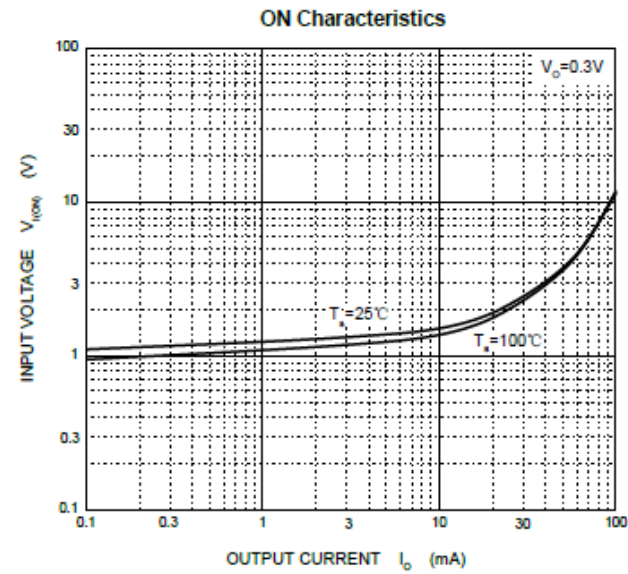
■Electrical Characteristics (Ta=25℃ unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Input voltage	$V_{I(off)}$	V	$V_{CC}=5V, I_c=100\mu A$ $V_O=0.3V, I_c=20mA$	0.5		
	$V_{I(on)}$	V				3.0
Output voltage	$V_{O(on)}$	V	$I_o / I_i = 10mA / 0.5 mA$			0.3
Input current	I_I	mA	$V_I=5V$			1.8
Output current	$I_{O(off)}$	μA	$V_{CC}=50V, V_i=0$			0.5
DC current gain	G_I		$V_o=5V, I_o = 10mA$	20		
Input resistance	R_1	k Ω		3.29	4.7	6.11
Resistance ratio	R_2/R_1			0.8	1	1.2
Transition frequency	fT	MHz	$V_o=10V, I_O=5mA, f=100MHz$		250	

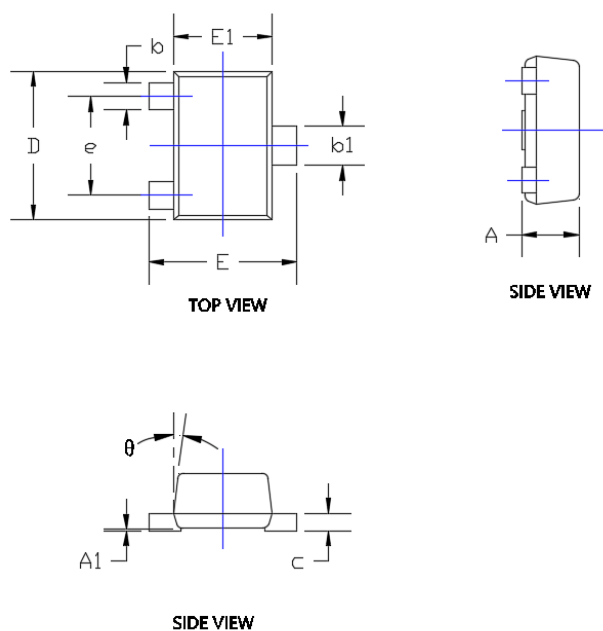
■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
DTC143EM	F2	Approximate 0.0013	8000	80000	320000	7" reel

■ Characteristics (Typical)

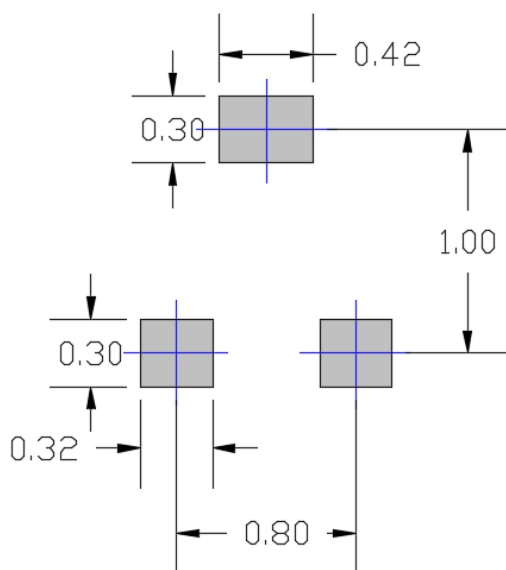


■SOT-723 Package Outline Dimensions



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.	
θ	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.

Disclaimer

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