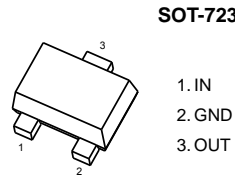
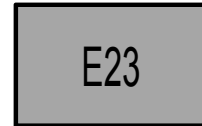


FEATURES

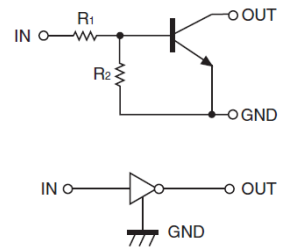
Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors(see equivalent circuit)

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



Equivalent Circuit



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

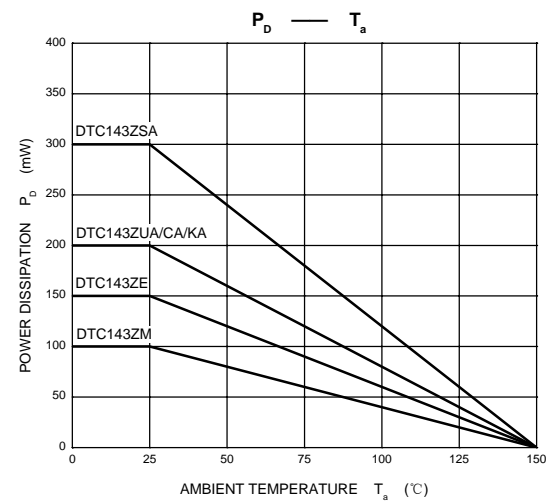
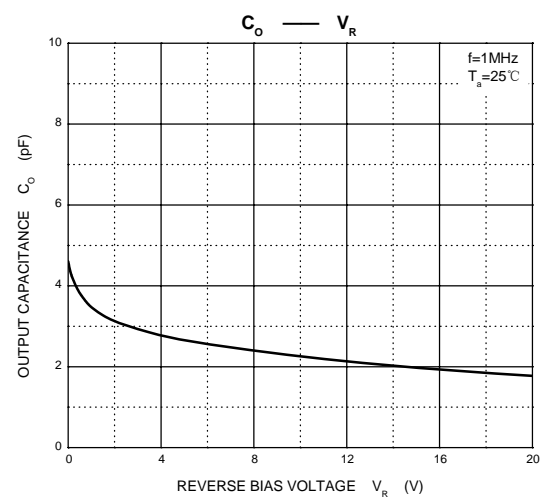
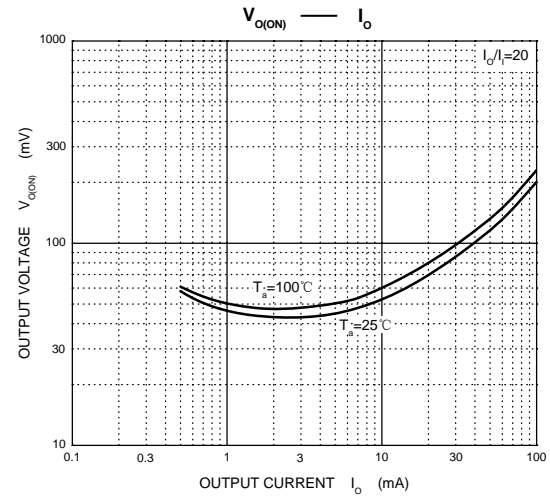
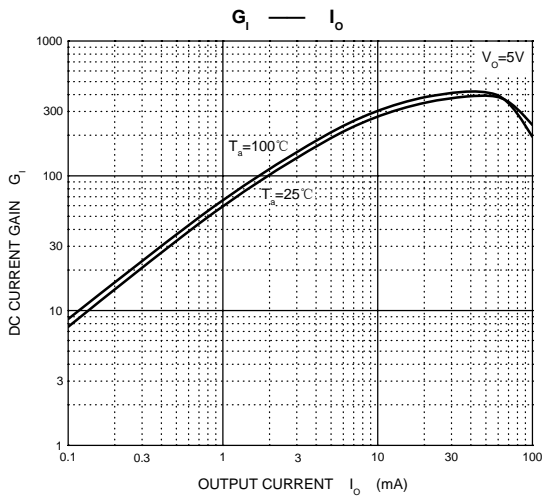
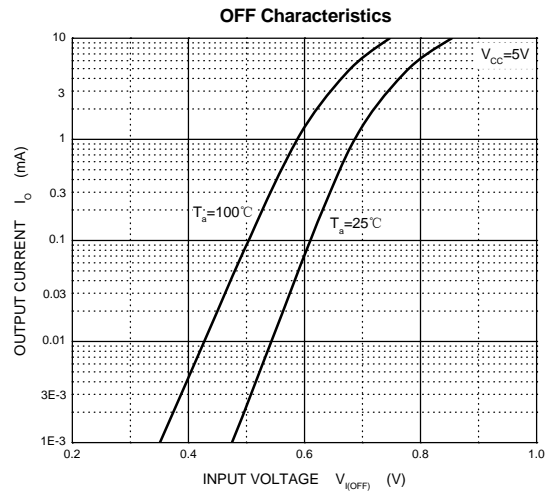
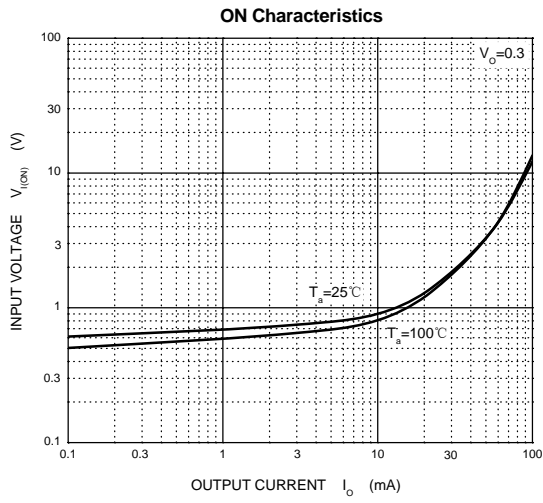
MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	DTC143ZM	Unit
V_{CC}	Supply Voltage	50	V
V_{IN}	Input Voltage	-5~+30	V
I_o	Output Current	100	mA
P_D	Power Dissipation	100	mW
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	$V_{CC}=5V, I_O=100\mu A$	0.5			V
	$V_{I(on)}$	$V_O=0.3V, I_O=5mA$			1.3	V
Output voltage	$V_{O(on)}$	$I_O/I_I=5mA/0.25mA$		0.1	0.3	V
Input current	I_I	$V_I=5V$			1.8	mA
Output current	$I_{O(off)}$	$V_{CC}=50V, V_I=0$			0.5	μA
DC current gain	G_1	$V_O=5V, I_O=10mA$	80			
Input resistance	R_1		3.29	4.7	6.11	k Ω
Resistance ratio	R_2/R_1		8	10	12	
Transition frequency	f_T	$V_O=10V, I_O=5mA, f=100MHz$		250		MHz

RATING AND CHARACTERISTIC CURVES



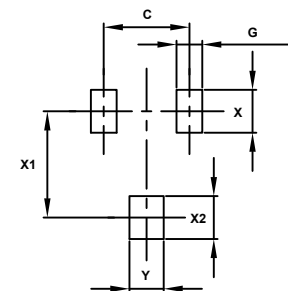
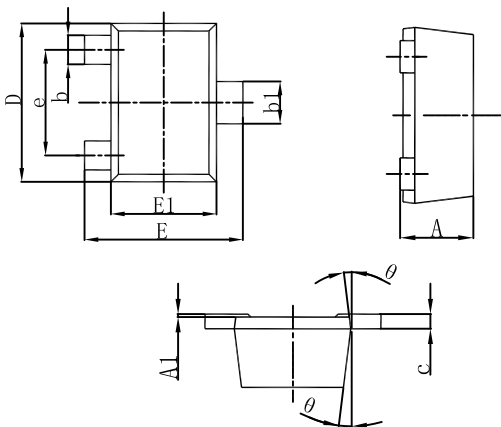
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max ($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature (T_L) (Liquid us)	+217 °C
	-Temperature (t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C



Package Dimensions & Suggested Pad Layout

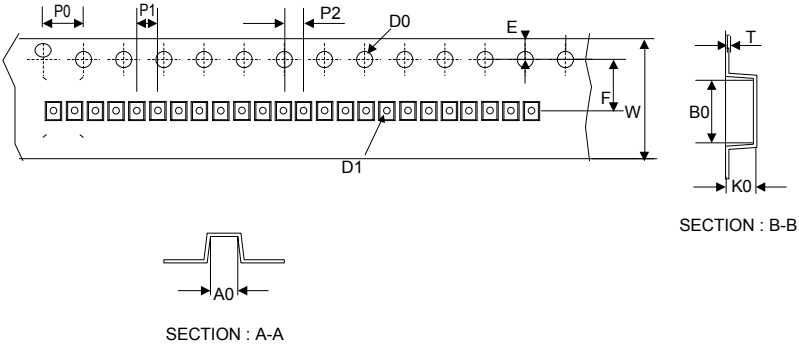
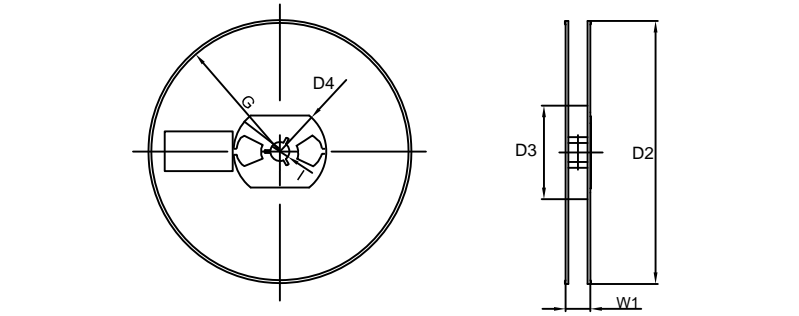
SOT-723 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.430	0.500	0.017	0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

Dimensions	Value (in mm)
C	0.80
G	0.35
X	0.40
X1	1.00
X2	0.40
Y	0.45

Tape & reel specification

Tape	Symbol	Dimension (mm)	
	P0	4.00±0.20	
	P1	2.00±0.20	
	P2	2.00±0.20	
	D0	1.55±0.20	
	D1	0.65±0.20	
	E	1.55±0.25	
	F	3.60±0.20	
	W	8.00±0.20	
	A0	1.65±0.20	
	B0	1.75±0.20	
	K0	0.85±0.20	
	T	0.20±0.20	
	<p>7" Reel</p> 	D2	177.0±5.0
		D3	55Min.
D4		R24.6±2.0	
G		R82.0±2.0	
I		13.0±2.0	
W1		10.20±3.0	
Quantity: 3000PCS			