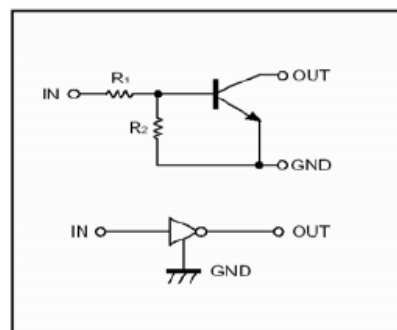


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

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 positive 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.

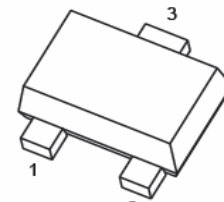
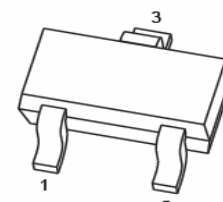
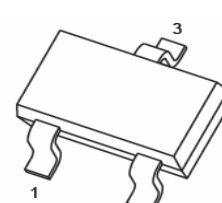
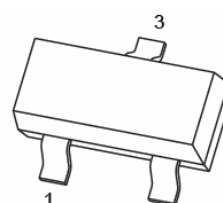
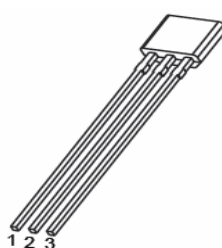
EQUIVALENT CIRCUIT



ORDER INFORMATION

Part Number	Type
DTC144E Series-C	Lead (Pb)-free and Halogen-free

PIN CONNENCTIONS AND MARKING

<p>DTC144EM-C</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-723 MARKING:26</p>	<p>DTC144EE-C</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-523 MARKING:26</p>
<p>DTC144EUA-C</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-323 MARKING:26</p>	<p>DTC144ECA-C</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-23 MARKING:26</p>
<p>DTC144ESA-C</p> <p>1. IN 2. GND 3. OUT</p>  <p>TO-92S MARKING: C144 E□□□ ← □= Production Line Indication</p>	

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

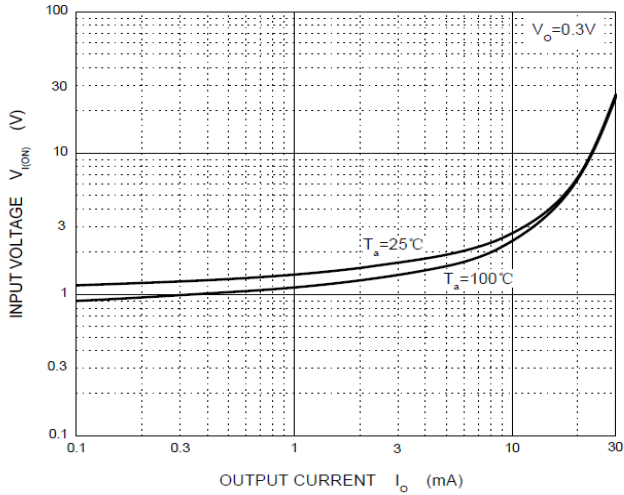
Parameter	Symbol	Limits (DTC144E□-C)					Unit
		M	E	UA	CA	SA	
Supply Voltage	V_{CC}	50					V
Input Voltage	V_{IN}	-10~40					
Output Current	I_O	30					mA
Peak Collector Current	I_C	100					
Power Dissipation	P_D	100	150	200	300		mW
Junction & Storage Temperature	T_J, T_{STG}	150, -55~150					$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

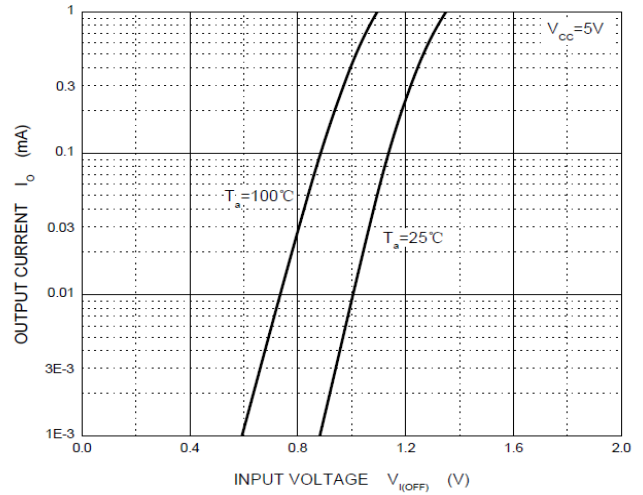
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Input Voltage	$V_{I(off)}$	0.5	-	-	V	$V_{CC}=5V, I_O=100\mu A$
	$V_{I(on)}$	-	-	3		$V_O=0.3V, I_O=2mA$
Output Voltage	$V_{O(on)}$	-	-	0.3	V	$I_O/I_I=10mA/0.5mA$
Input Current	I_I	-	-	0.18	mA	$V_I=5V$
Output Current	$I_{O(off)}$	-	-	0.5	μA	$V_{CC}=50V, V_I=0$
DC Current Gain	G_I	68	-	-		$V_O=5V, I_O=5mA$
Input Resistance	R_1	32.9	47	61.1	k Ω	
Resistance Ratio	R_2/R_1	0.8	1	1.2		
Transition Frequency	f_T	-	250	-	MHz	$V_O=10V, I_O=5mA, f=100MHz$

CHARACTERISTIC CURVES

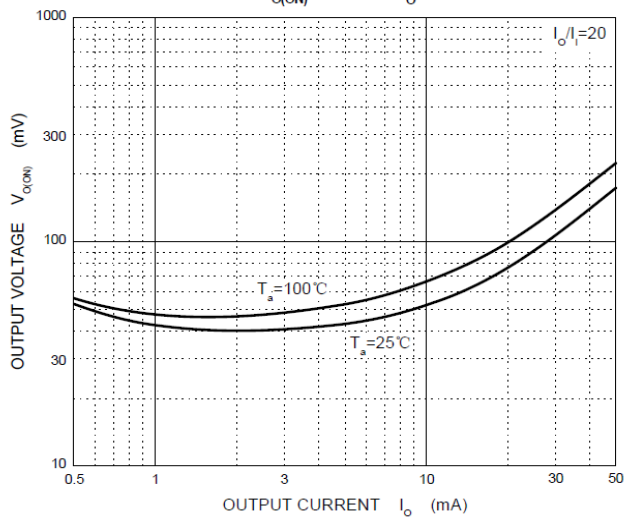
ON Characteristics



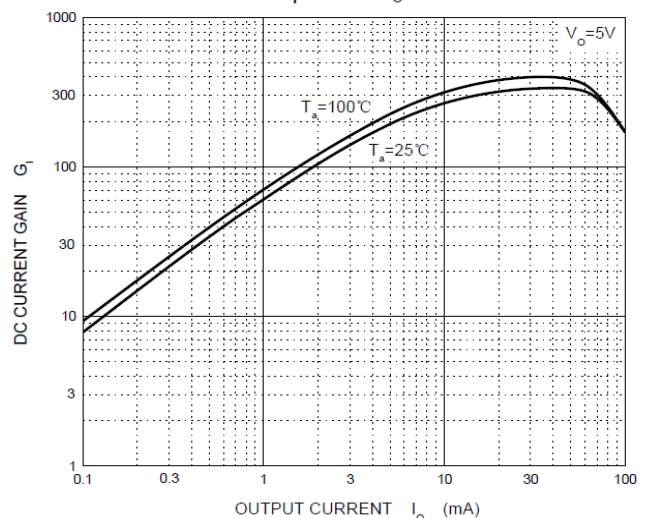
OFF Characteristics



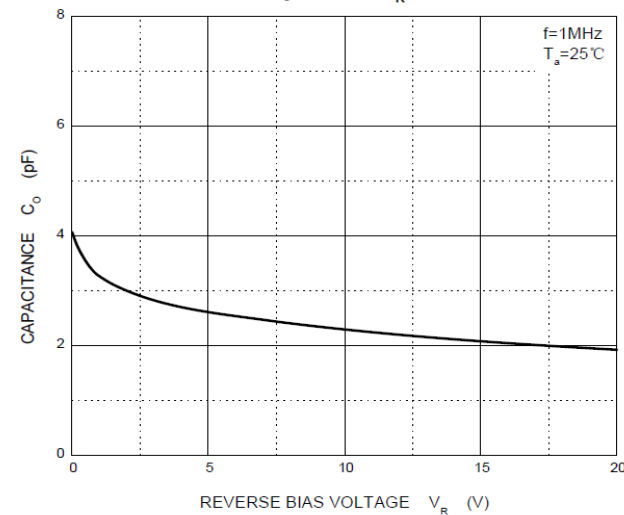
$V_{O(ON)} - I_O$



$G_I - I_O$



$C_O - V_R$



$P_D - T_a$

