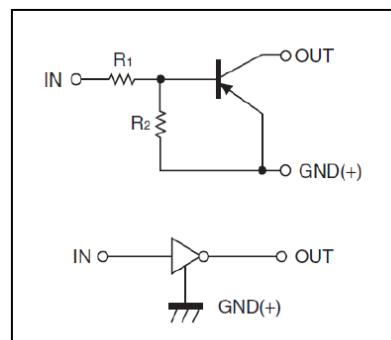


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

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.

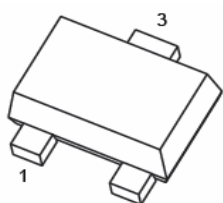
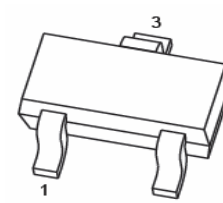
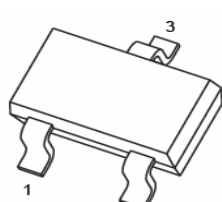
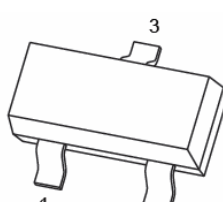
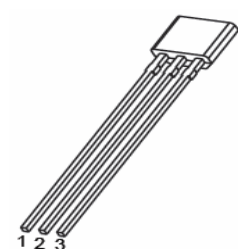
EQUIVALENT CIRCUIT



ORDER INFORMATION

Part Number	Type
DTA114E Series	Lead (Pb)-free
DTA114E Series-C	Lead (Pb)-free and Halogen-free

PIN CONNENCTIONS AND MARKING

<p>DTA114EM</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-723 MARKING:14</p>	<p>DTA114EE</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-523 MARKING:14</p>
<p>DTA114EUA</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-323 MARKING:14</p>	<p>DTA114ECA</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-23 MARKING:14</p>
<p>DTA114ESA</p> <p>1. IN 2. GND 3. OUT</p>  <p>TO-92S MARKING: A114 E000 □ = Production Line Indication</p>	

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

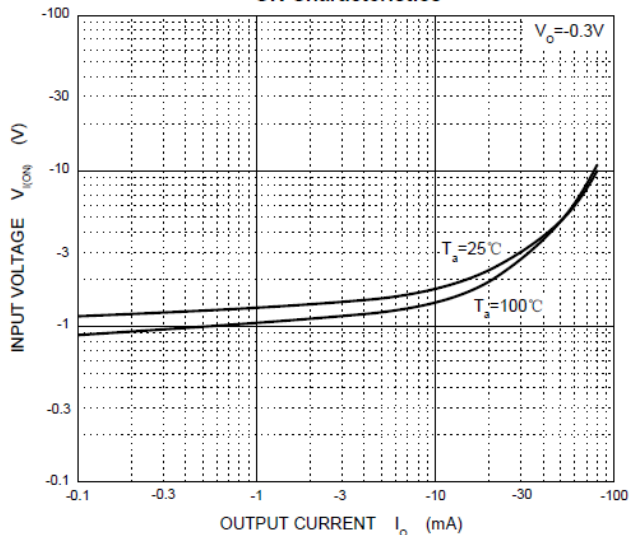
Parameter	Symbol	Limits (DTA114E□)					Unit
		M	E	UA	CA	SA	
Supply Voltage	V_{CC}	-50					V
Input Voltage	V_{IN}	-40~10					
Output Current	I_O	-50					mA
Peak Collector Current	I_C	-100					
Power Dissipation	P_D	100	150	200	300	mW	
Junction & Storage Temperature	T_J, T_{STG}	150, -55~150					$^\circ\text{C}$

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

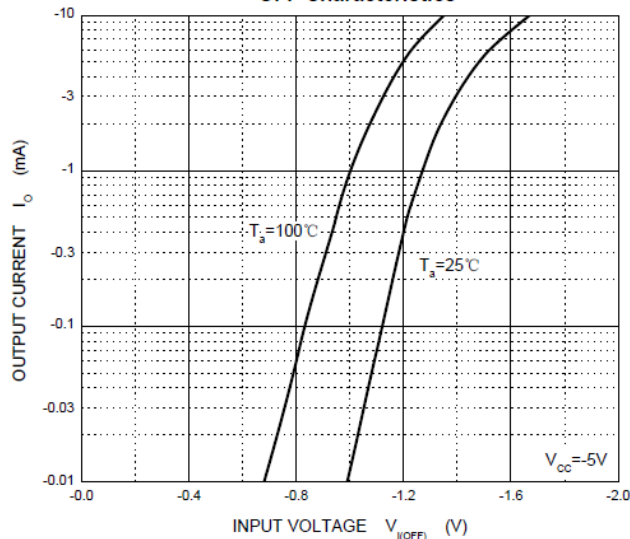
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Input Voltage	$V_{I(off)}$	-0.5	-	-	V	$V_{CC} = -5V, I_O = -100\mu\text{A}$
	$V_{I(on)}$	-	-	-3		$V_O = -0.3V, I_O = -10\text{mA}$
Output Voltage	$V_{O(on)}$	-	-	-0.3	V	$I_O/I_I = -10\text{mA} / -0.5\text{mA}$
Input Current	I_I	-	-	-0.88	mA	$V_I = -5V$
Output Current	$I_{O(off)}$	-	-	-0.5	μA	$V_{CC} = -50V, V_I = 0$
DC Current Gain	G_I	30	-	-		$V_O = -5V, I_O = -5\text{mA}$
Input Resistance	R_1	7	10	13	k Ω	
Resistance Ratio	R_2 / R_1	0.8	1	1.2		
Transition Frequency	f_T	-	250	-	MHz	$V_O = -10V, I_O = -5\text{mA}, f = 100\text{MHz}$

CHARACTERISTIC CURVES

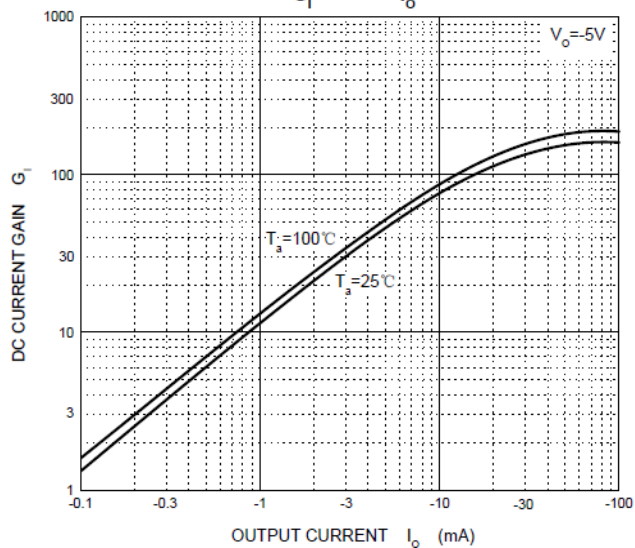
ON Characteristics



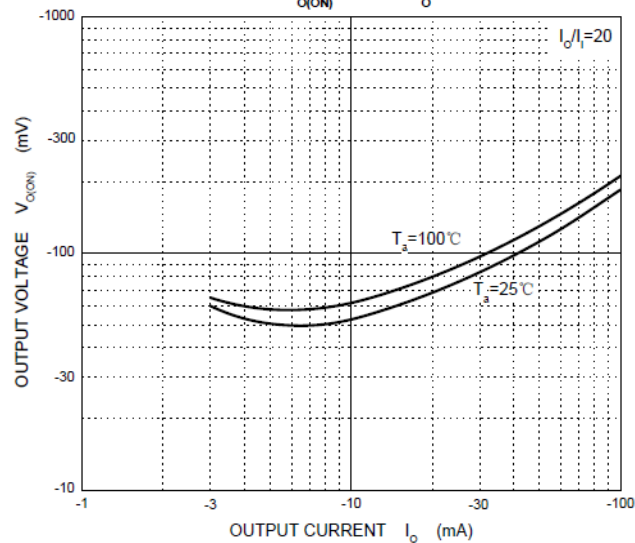
OFF Characteristics



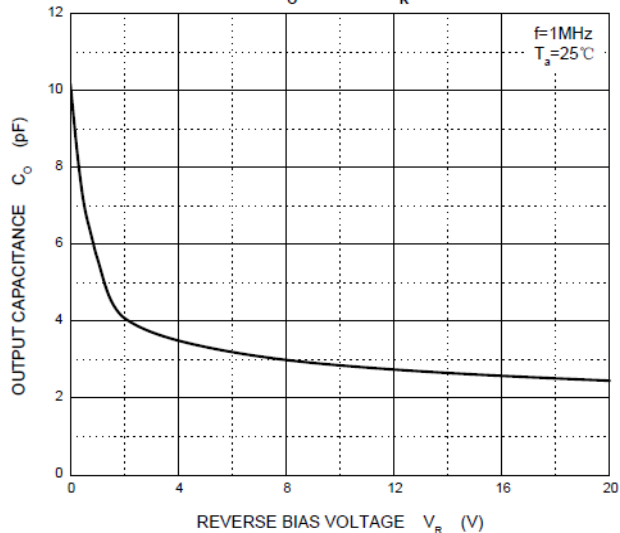
G_I — I_O



$V_{O(ON)}$ — I_O



C_O — V_R



P_D — T_a

