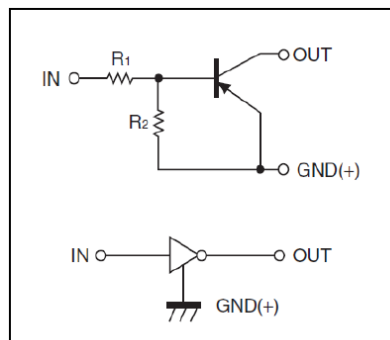


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

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.

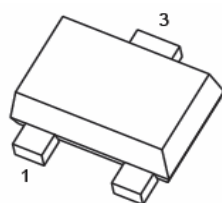
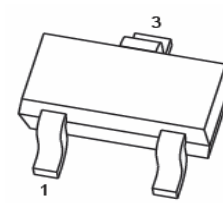
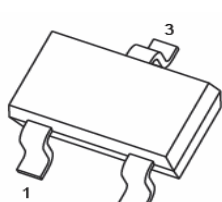
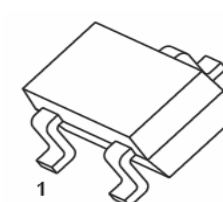
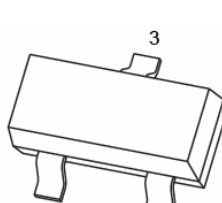
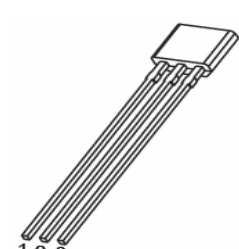
EQUIVALENT CIRCUIT



ORDER INFORMATION

Part Number	Type
DTA123J Series	Lead (Pb)-free
DTA123J Series-C	Lead (Pb)-free and Halogen-free

PIN CONNECTIONS AND MARKING

<p>DTA123JM</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-723 MARKING:E32</p>	<p>DTA123JE</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-523 MARKING:E32</p>
<p>DTA123JUA</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-323 MARKING:132</p>	<p>DTA123JKA</p> <p>1. IN 2. GND 3. OUT</p>  <p>SC-59 MARKING:E32</p>
<p>DTA123JCA</p> <p>1. IN 2. GND 3. OUT</p>  <p>SOT-23 MARKING:E32</p>	<p>DTA123JSA</p> <p>1. IN 2. GND 3. OUT</p>  <p>TO-92S MARKING: A123 J000 ← □ = Production Line Indication</p>

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

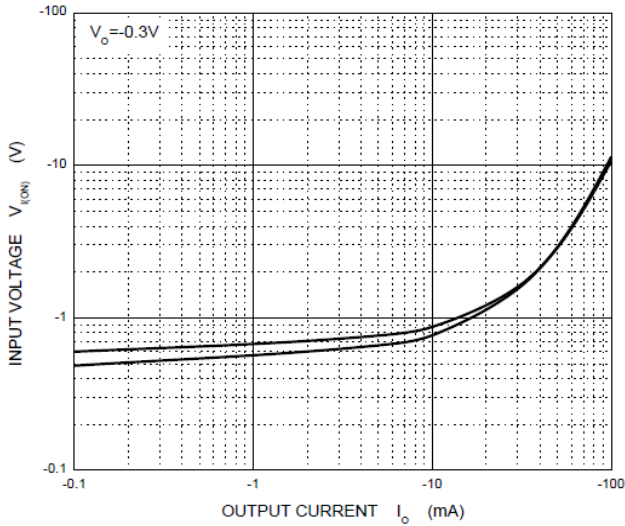
Parameter	Symbol	Limits (DTA123J□)						Unit
		M	E	UA	KA	CA	SA	
Supply Voltage	V_{CC}	-50						V
Input Voltage	V_{IN}	-12~5						
Output Current	I_o	-100						mA
Power Dissipation	P_D	100	150	200		300		mW
Junction & Storage Temperature	T_J, T_{STG}	150, -55~150						$^\circ\text{C}$

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

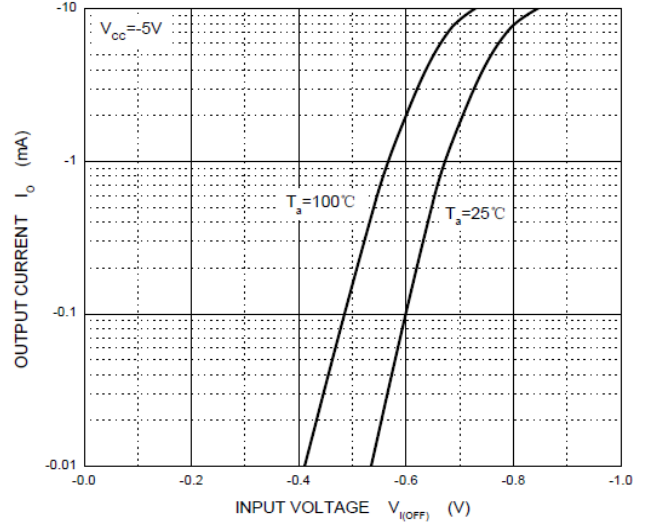
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Input Voltage	$V_{I(off)}$	-0.5	-	-	V	$V_{CC} = -5V, I_o = -100\mu\text{A}$
	$V_{I(on)}$	-	-	-1.1		$V_o = -0.3V, I_o = -5\text{mA}$
Output Voltage	$V_{O(on)}$	-	-0.1	-0.3	V	$I_o/I_i = -5\text{mA} / -0.25\text{mA}$
Input Current	I_i	-	-	-3.6	mA	$V_i = -5V$
Output Current	$I_{O(off)}$	-	-	-0.5	μA	$V_{CC} = -50V, V_i = 0$
DC Current Gain	G_i	80	-	-		$V_o = -5V, I_o = -10\text{mA}$
Input Resistance	R_1	1.54	2.2	2.86	k Ω	
Resistance Ratio	R_2 / R_1	17	21	26		
Transition Frequency	f_T	-	250	-	MHz	$V_o = -10V, I_o = -5\text{mA}, f = 100\text{MHz}$

CHARACTERISTIC CURVES

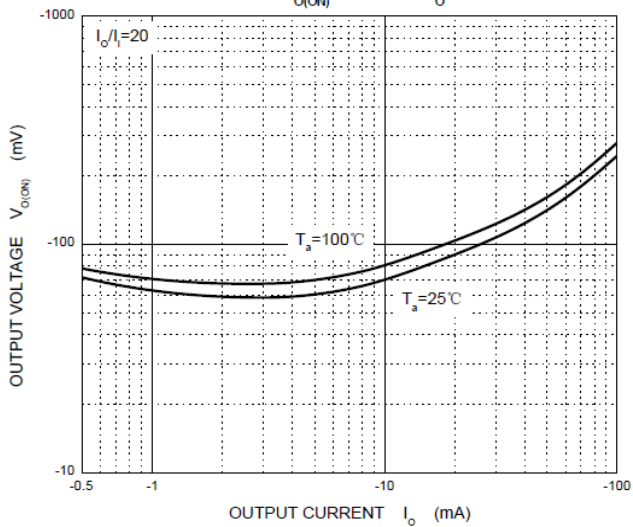
ON Characteristics



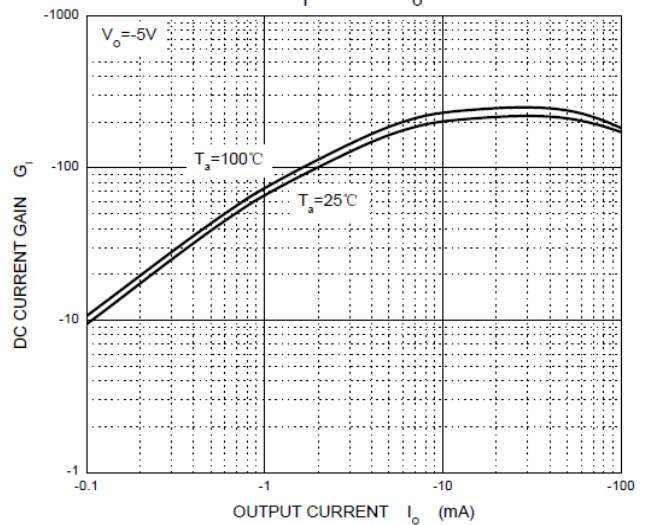
OFF Characteristics



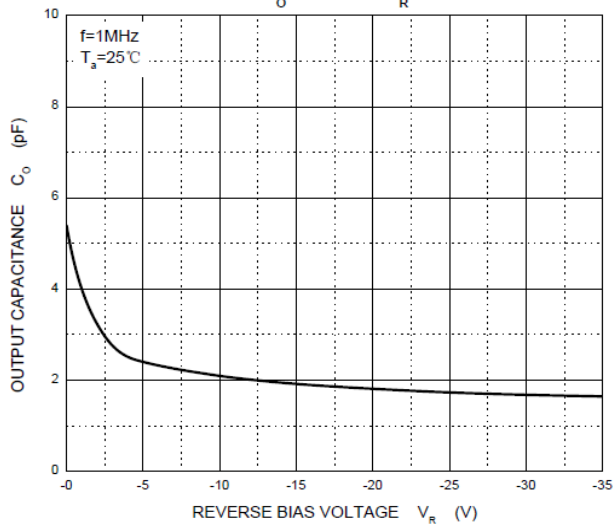
$V_{O(ON)}$ — I_O



G_I — I_O



C_O — V_R



P_D — T_a

