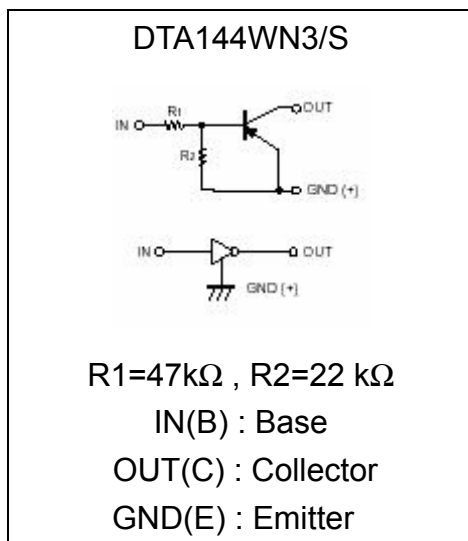
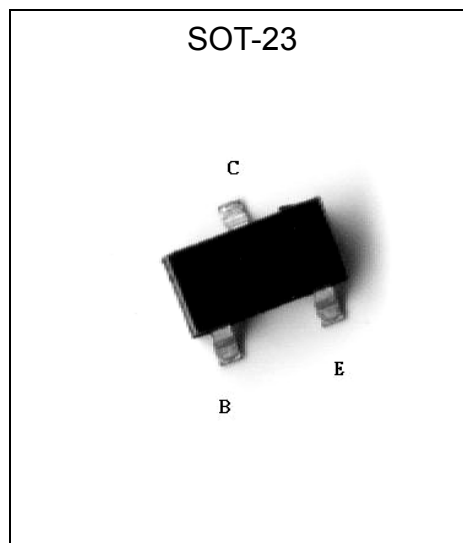


PNP Digital Transistors (Built-in Resistors)

DTA144WN3/S

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.
- Complements the DTC144WN3/S
- Pb-free package is available

Equivalent Circuit

Outline

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply Voltage	V _{CC}	-50	V
Input Voltage	V _I	-40~+10	V
Output Current	I _O	-30	mA
	I _{O(max.)}	-100	mA
Power Dissipation	P _d	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

**Electrical Characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Input Voltage	$V_{I(off)}$	-	-	-0.8	V	$V_{CC}=-5V, I_o=-100\mu A$
	$V_{I(on)}$	-4	-	-	V	$V_o=-0.3V, I_o=-2mA$
Output Voltage	$V_{O(on)}$	-	-0.1	-0.3	V	$I_o=-10mA, I_i=-0.5mA$
Input Current	I_i	-	-	-0.16	mA	$V_i=-5V$
Output Current	$I_{O(off)}$	-	-	-0.5	μA	$V_{CC}=-50V, V_i=0V$
DC Current Gain	G_i	56	-	-	-	$V_o=-5V, I_o=-5mA$
Input Resistance	R_i	32.9	47	61.1	k Ω	-
Resistance Ratio	R_2/R_1	0.37	0.47	0.57	-	-
Transition Frequency	f_T	-	250	-	MHz	$V_{CE}=-10V, I_C=-5mA, f=100MHz$ *

* Transition frequency of the device

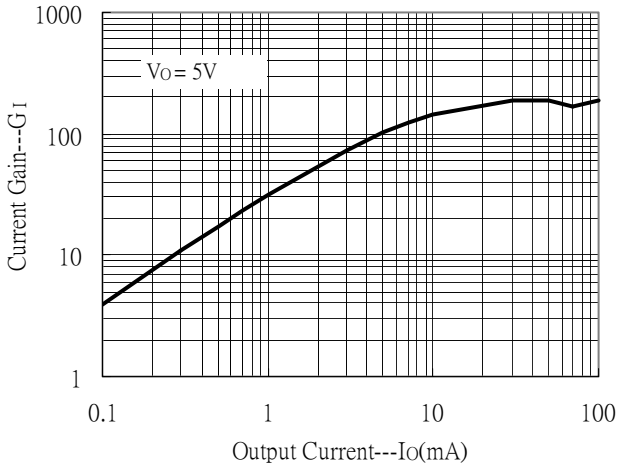
Ordering Information

Device	Package	Shipping	Marking
DTA144WN3	SOT-23	3000 pcs / tape & reel	6P
DTA144WN3S	SOT-23 (Pb-free)	3000 pcs / tape & reel	6P

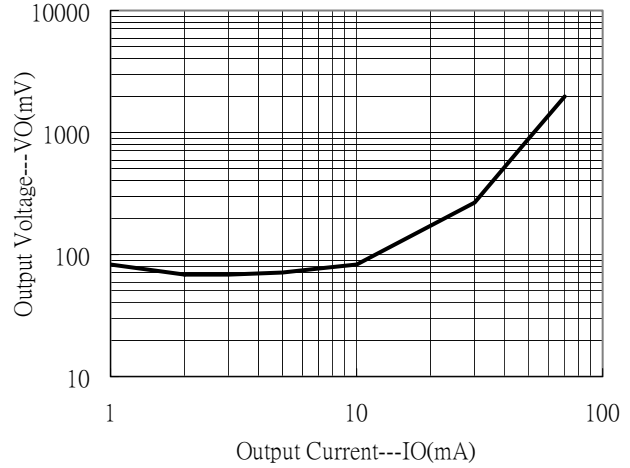


Characteristic Curves

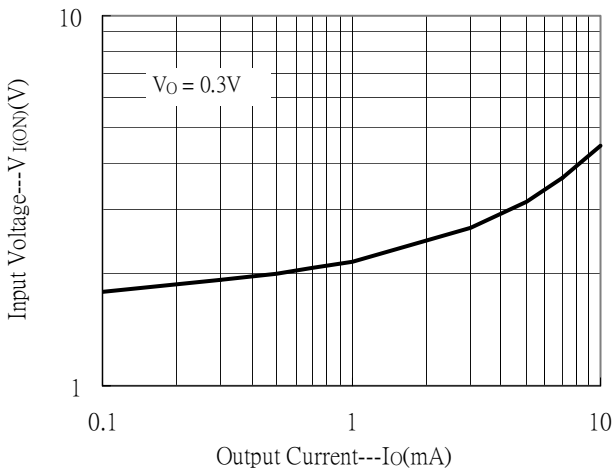
Current Gain vs Output Current



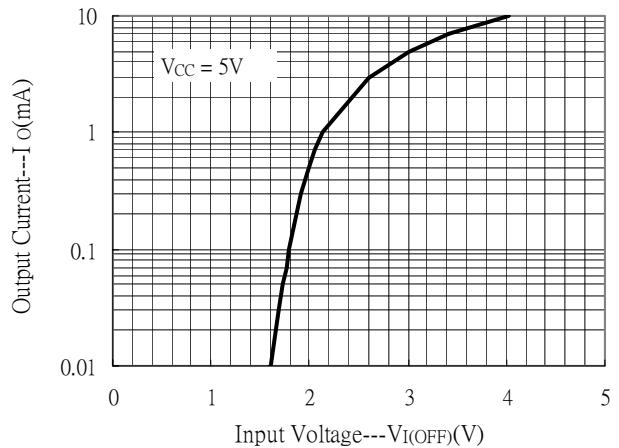
Output Voltage vs Output Current



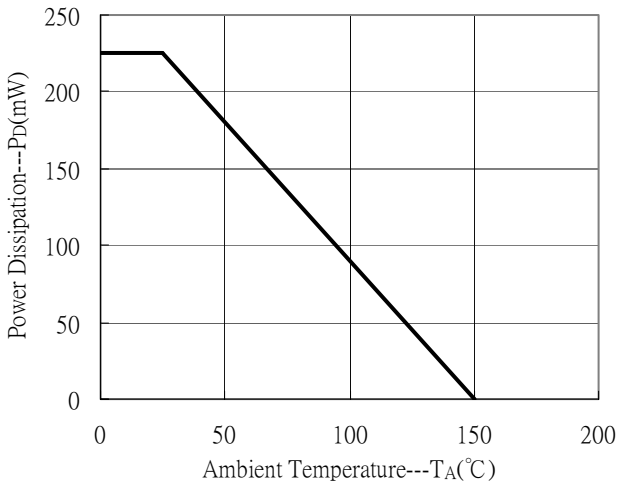
Input Voltage vs Output Current(ON characteristics)



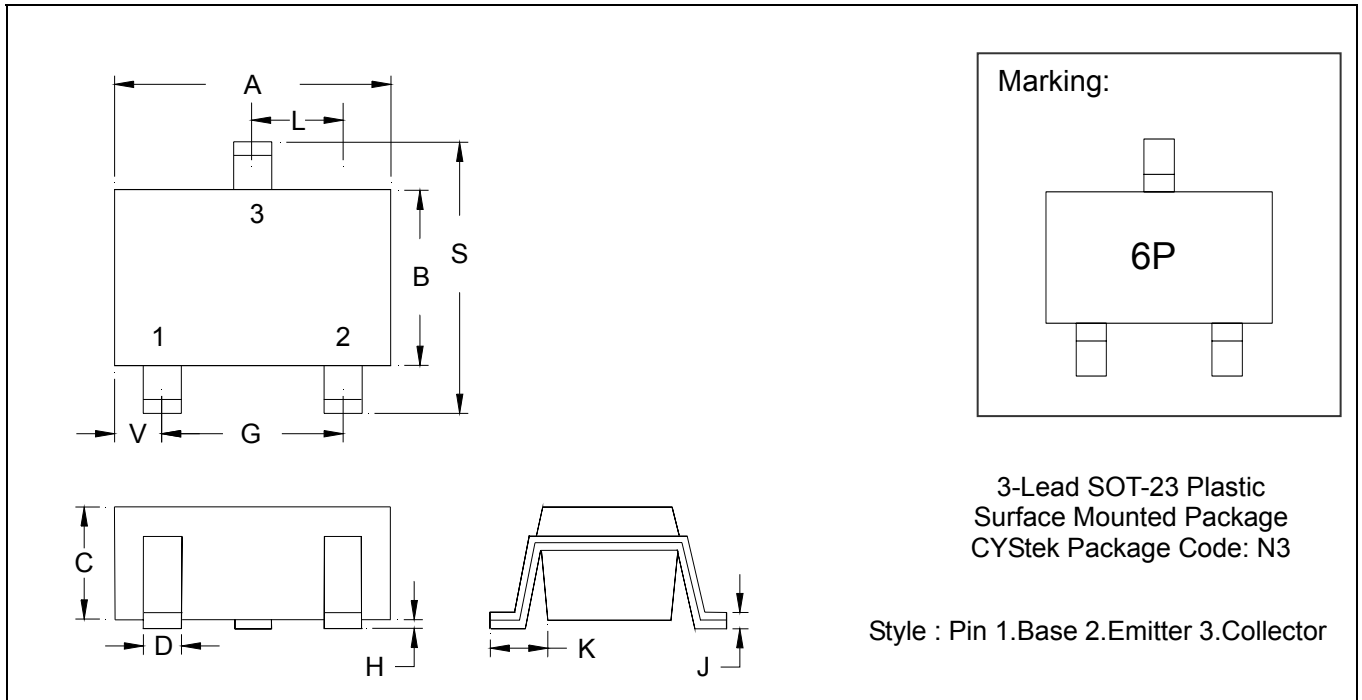
Output Current vs Input Voltage(OFF characteristics)



Power Derating Curve



SOT-23 Dimension



*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	0.1204	2.80	3.04	J	0.0034	0.0070	0.085	0.177
B	0.0472	0.0630	1.20	1.60	K	0.0128	0.0266	0.32	0.67
C	0.0335	0.0512	0.89	1.30	L	0.0335	0.0453	0.85	1.15
D	0.0118	0.0197	0.30	0.50	S	0.0830	0.1083	2.10	2.75
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0005	0.0040	0.013	0.10					

- Notes :**
- 1.Controlling dimension : millimeters.
 - 2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
 - 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material :

- Lead : 42 Alloy ; solder plating
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0

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