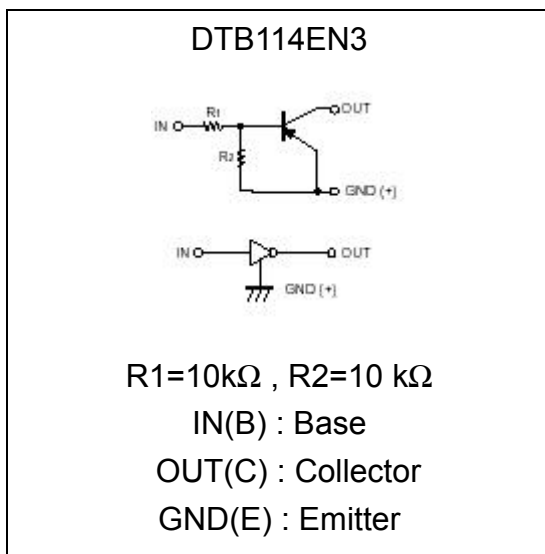
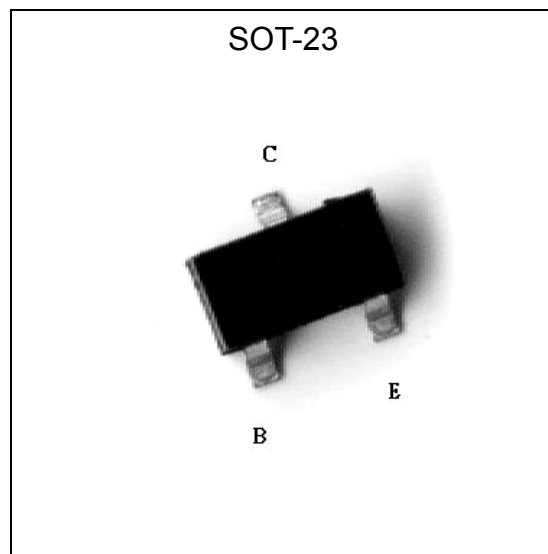


PNP Digital Transistors (Built-in Resistors)

DTB114EN3

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 DTD114EN3
- Pb-free package

Equivalent Circuit

Outline

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply Voltage	V _{CC}	-50	V
Input Voltage	V _{IN}	-40 ~ +10	V
Output Current	I _o	-500	mA
Power Dissipation	P _d	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

**Characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Input Voltage	V _{I(off)}	-	-	-0.5	V	V _{CC} =-5V, I _O =-100μA
	V _{I(on)}	-3	-	-	V	V _O =-0.3V, I _O =-10mA
Output Voltage	V _{O(on)}	-	-0.1	-0.3	V	I _O /I _I =-50mA/-2.5mA
Input Current	I _I	-	-	-0.88	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 =-50mA
Input Resistance	R _I	7	10	13	kΩ	-
Resistance Ratio	R ₂ /R ₁	0.8	1	1.2	-	-
Transition Frequency	f _T	-	200	-	MHz	V _{CE} =-10V, I _C =-5mA, f=100MHz *

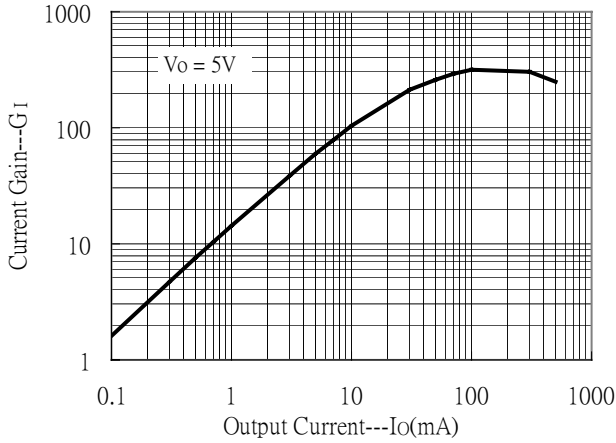
* Transition frequency of the device

Ordering Information

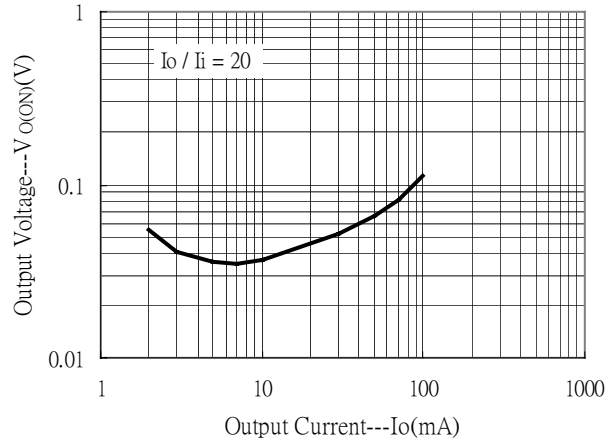
Device	Package	Shipping	Marking
DTB114EN3	SOT-23 (Pb-free)	3000 pcs / Tape & Reel	F14

Characteristic Curves

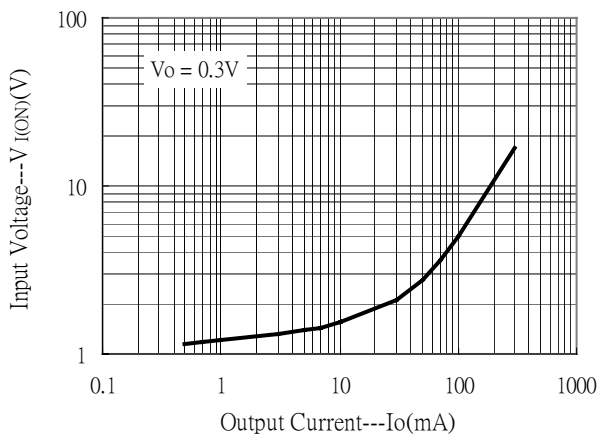
Current Gain vs Output Current



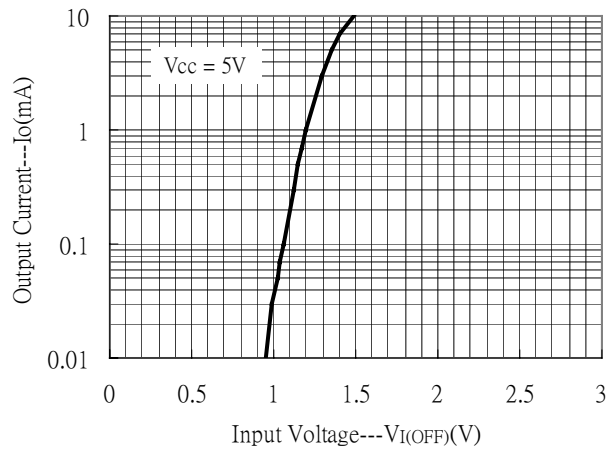
Output Voltage vs Output Current



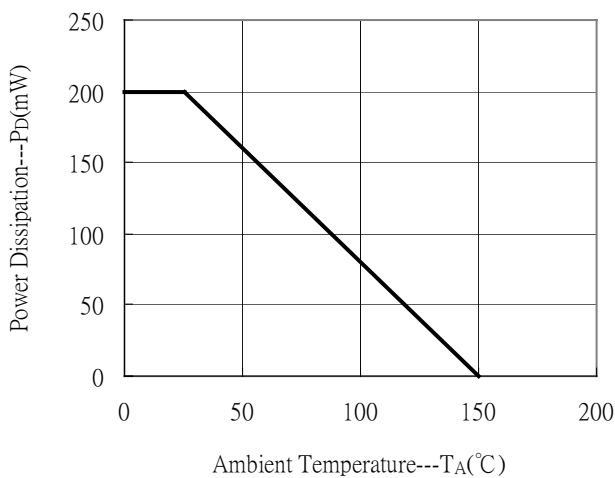
Input Voltage vs Output Current(ON characteristics)



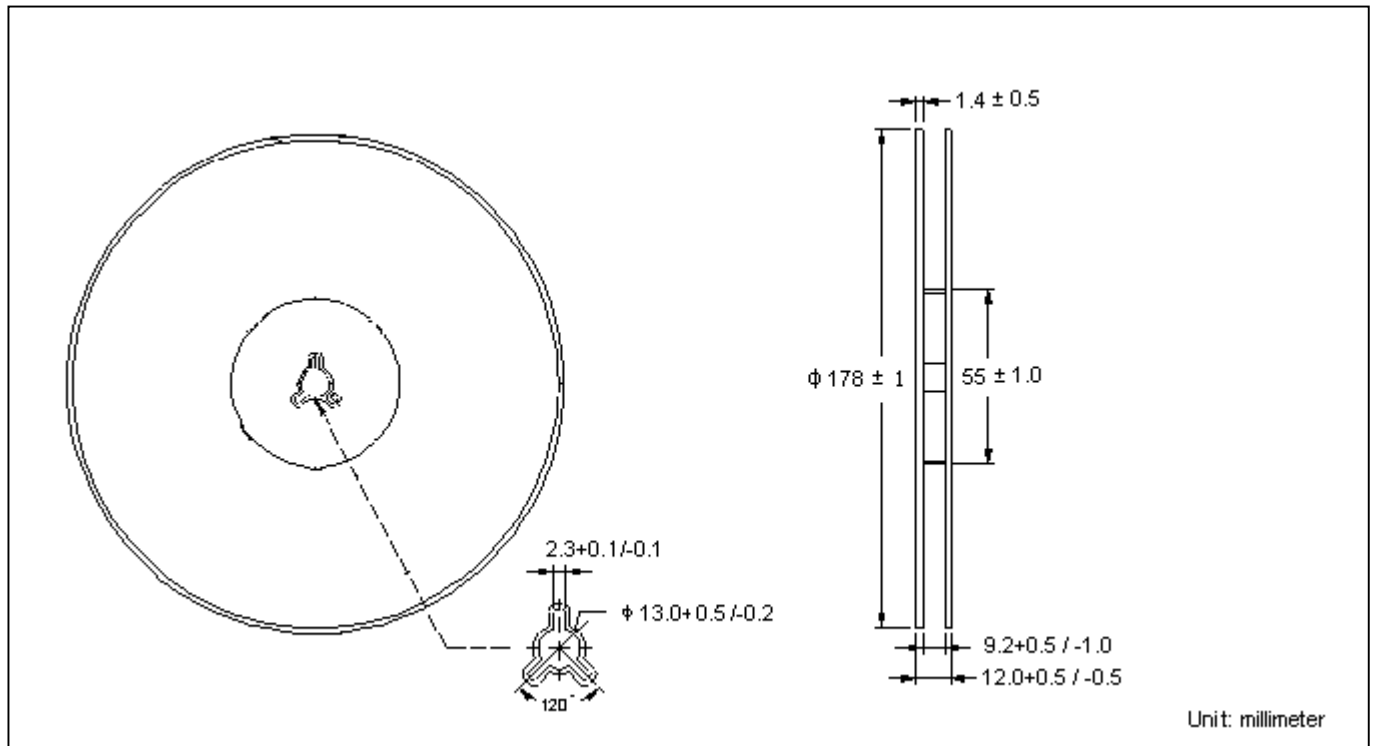
Output Current vs Input Voltage(OFF characteristics)



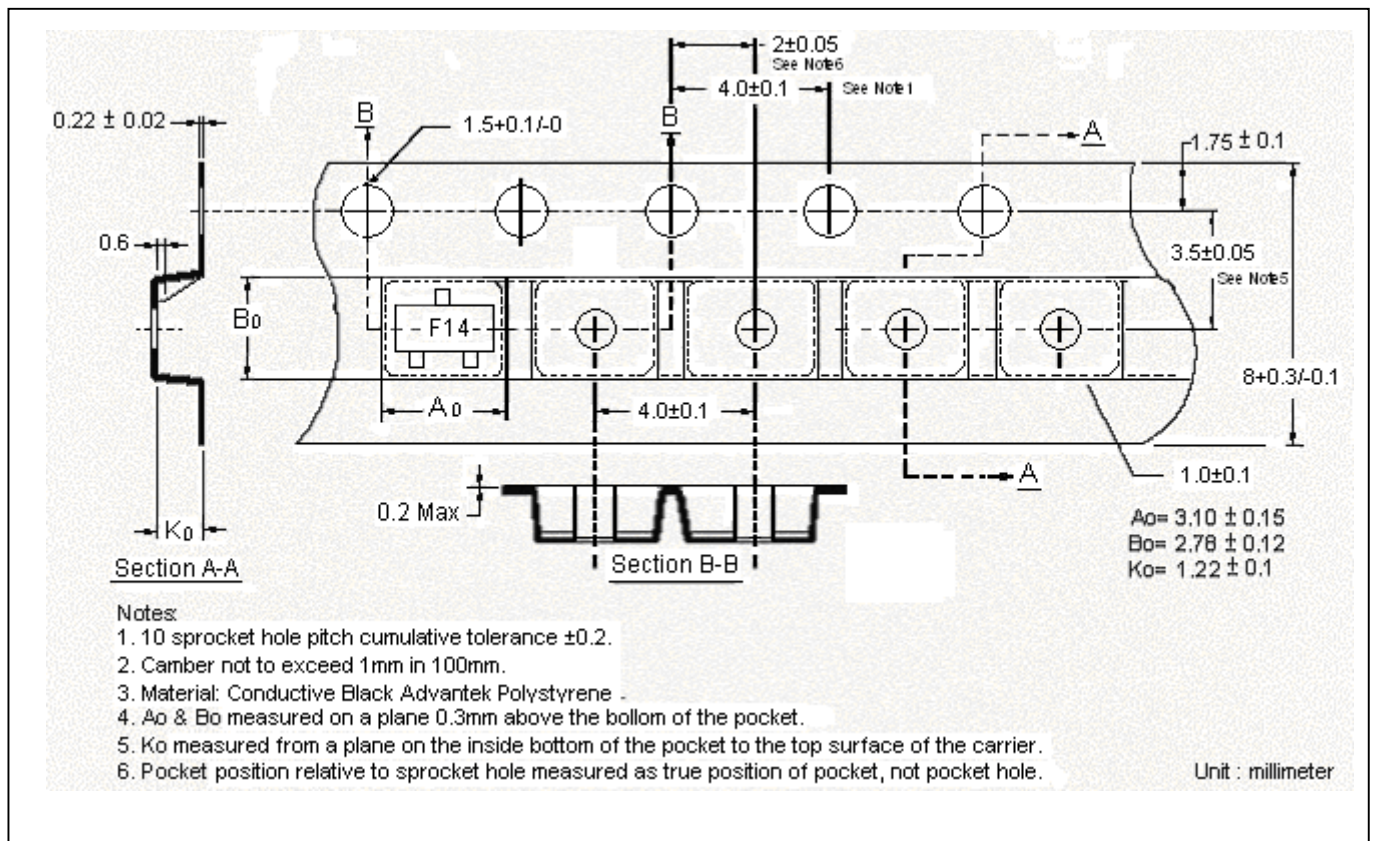
Power Derating Curve



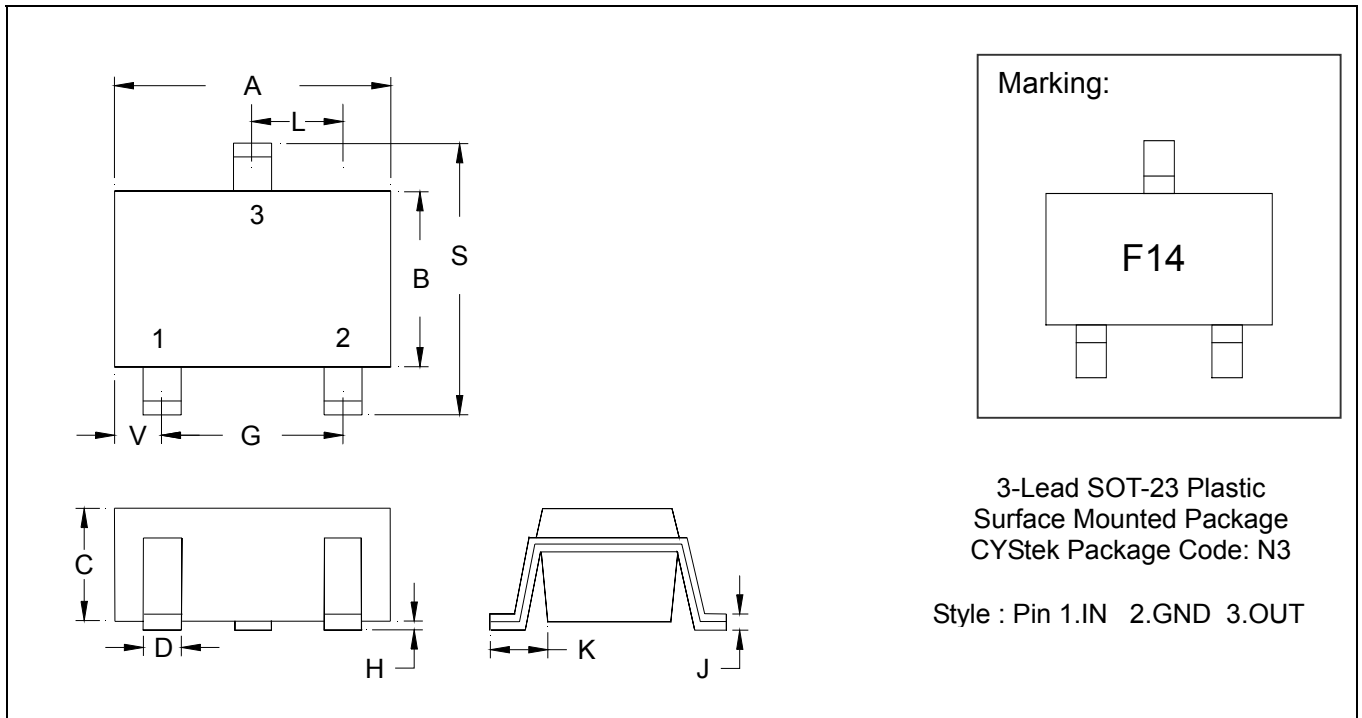
Reel Dimension



Carrier Tape Dimension



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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