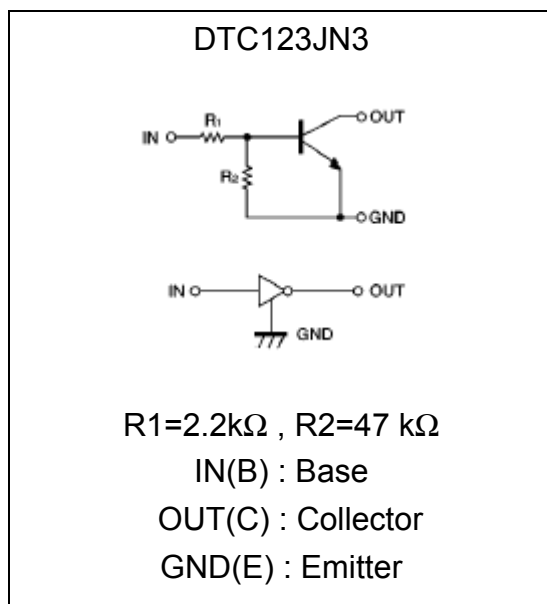
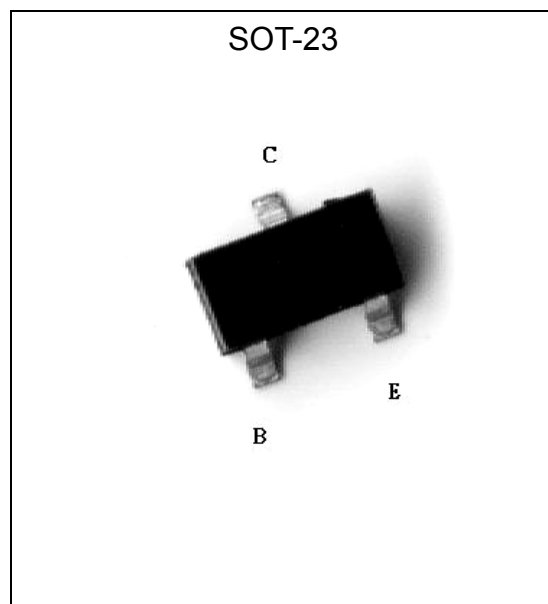


NPN Digital Transistors (Built-in Resistors)

DTC123JN3

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 negative 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 DTA123JN3
- 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}	-5~+12	V
Output Current	I _O	100	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



Characteristics (Ta=25°C)

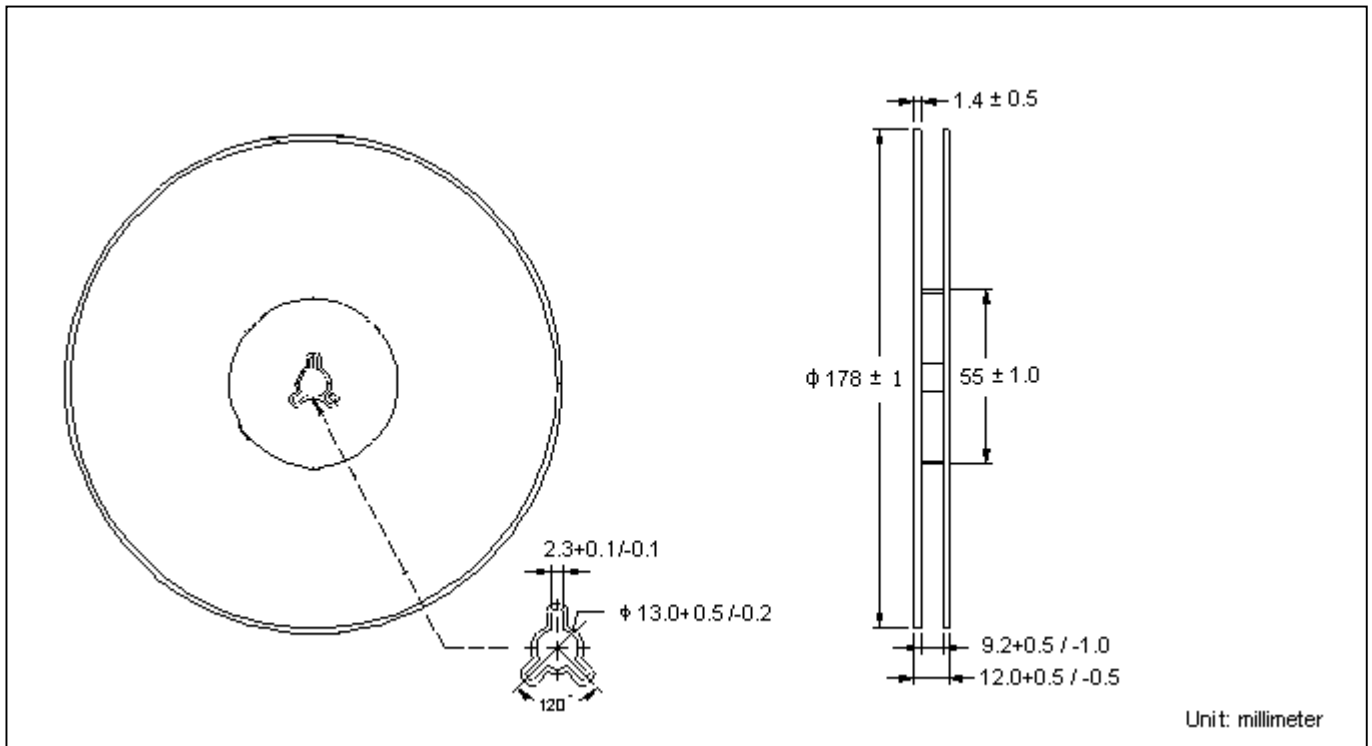
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Input Voltage	V _{I(off)}	-	-	0.5	V	V _{CC} =5V, I _o =100μA
	V _{I(on)}	1.1	-	-	V	V _o =0.3V, I _o =5mA
Output Voltage	V _{O(on)}	-	0.1	0.3	V	I _o /I _i =5mA/0.25mA
Input Current	I _i	-	-	3.6	mA	V _i =5V
Output Current	I _{O(off)}	-	-	0.5	μA	V _{CC} =50V, V _i =0V
DC Current Gain	G _i	80	-	-	-	V _o =5V, I _o =10mA
Input Resistance	R _i	1.54	2.2	2.86	kΩ	-
Resistance Ratio	R ₂ /R ₁	17	21	26	-	-
Transition Frequency	f _T	-	250	-	MHz	V _{CE} =10V, I _c =5mA, f=100MHz*

* Transition frequency of the device

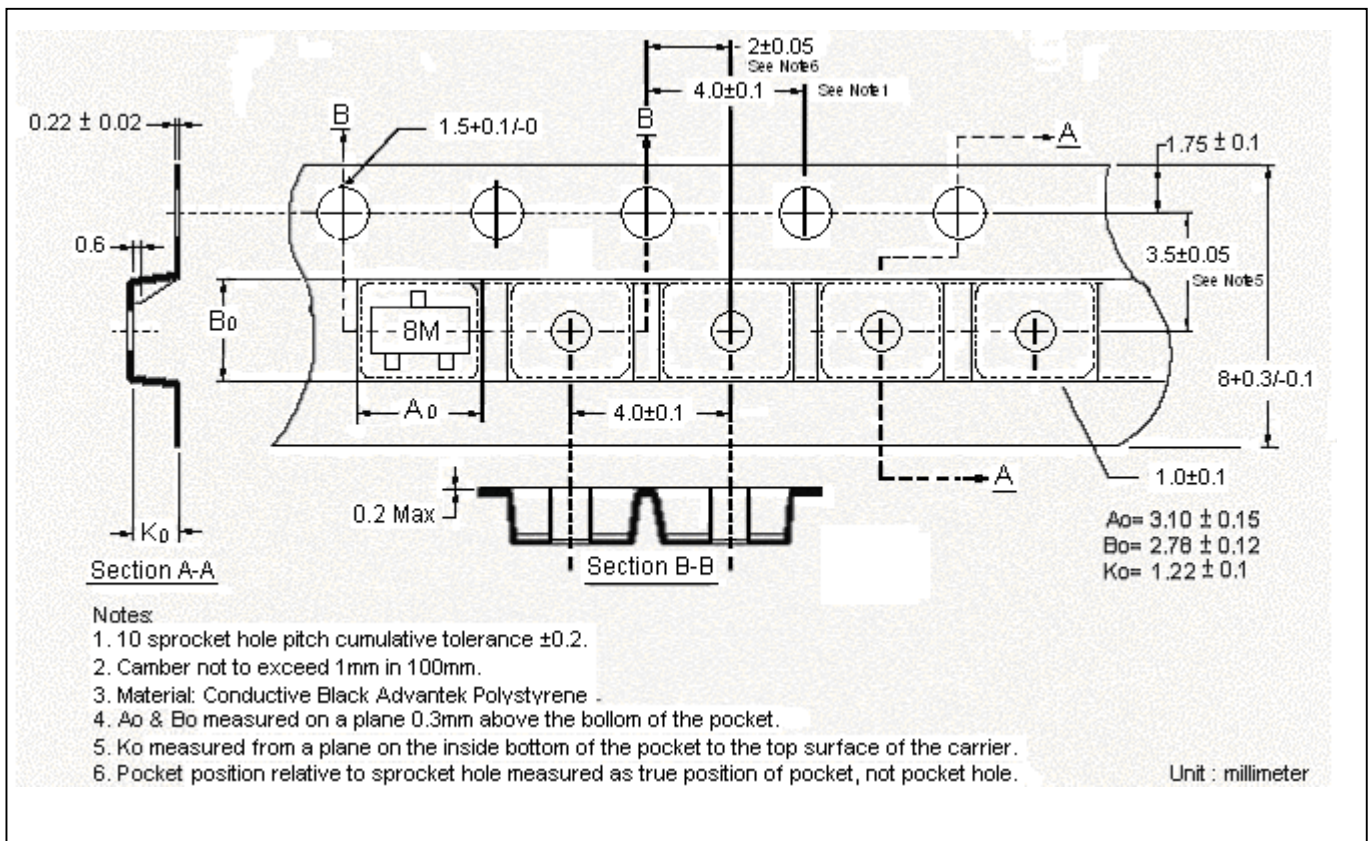
Ordering Information

Device	Package	Shipping	Marking
DTC123JN3	SOT-23 (Pb-free)	3000 pcs / Tape & Reel	8M

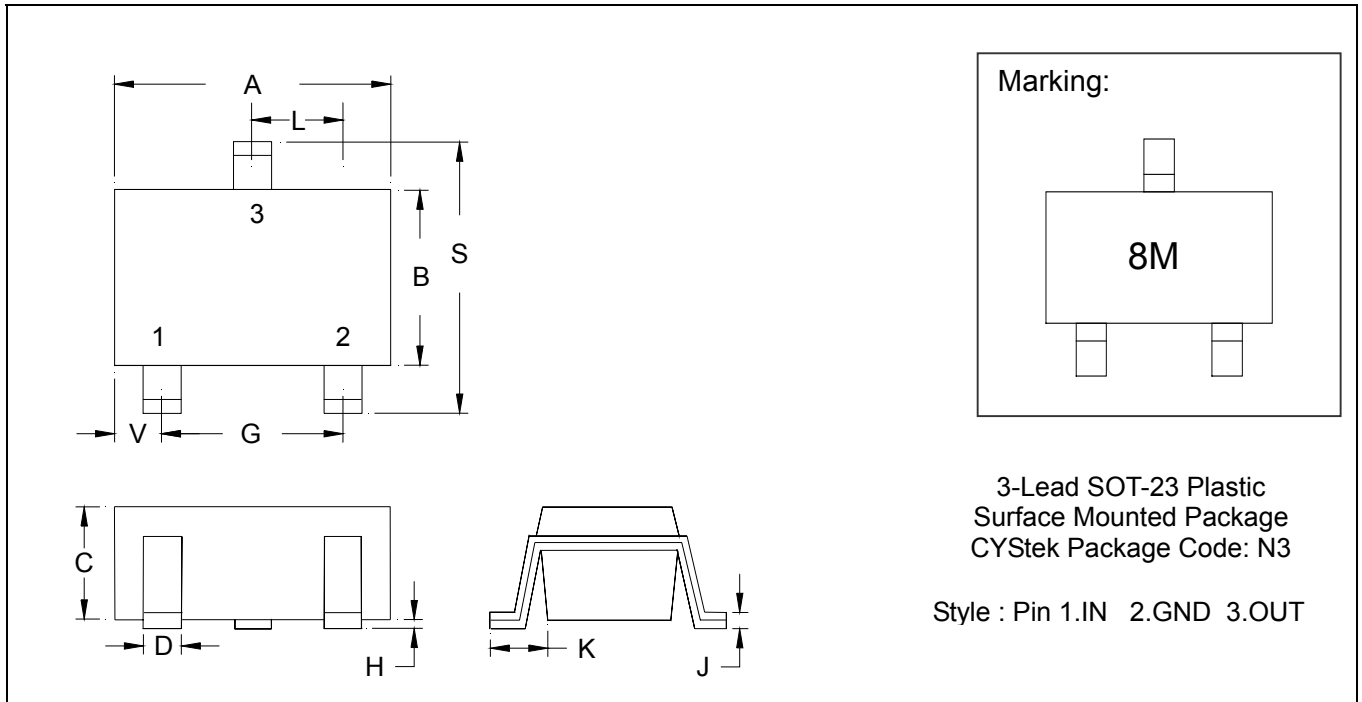
Reel Dimension



Carrier Tape Dimension



SOT-23 Dimension



3-Lead SOT-23 Plastic
 Surface Mounted Package
 CYStek Package Code: N3
 Style : Pin 1.IN 2.GND 3.OUT

*: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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