

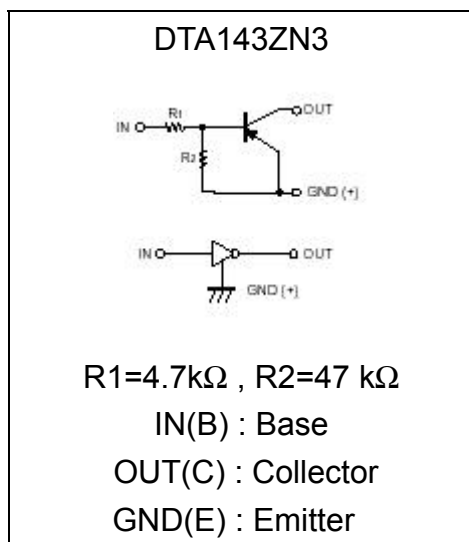
PNP Digital Transistors (Built-in Resistors)

DTA143ZN3

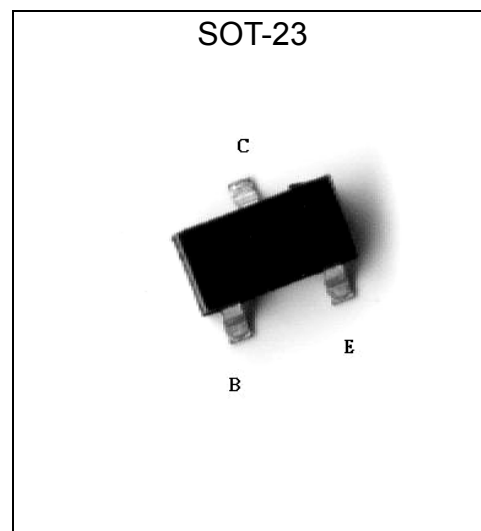
Features

- 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 DTC143ZN3.
- Pb-free & Halogen-free package.

Equivalent Circuit

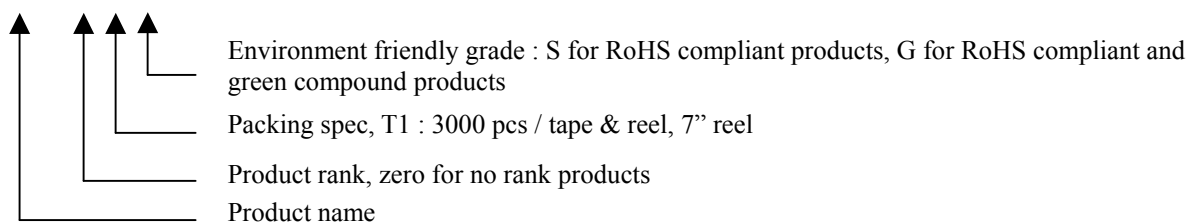


Outline



Ordering Information

Device	Package	Shipping
DTA143ZN3-0-T1-G	SOT-23 (Pb-free lead plating and halogen-free package)	3000 pcs / tape & reel



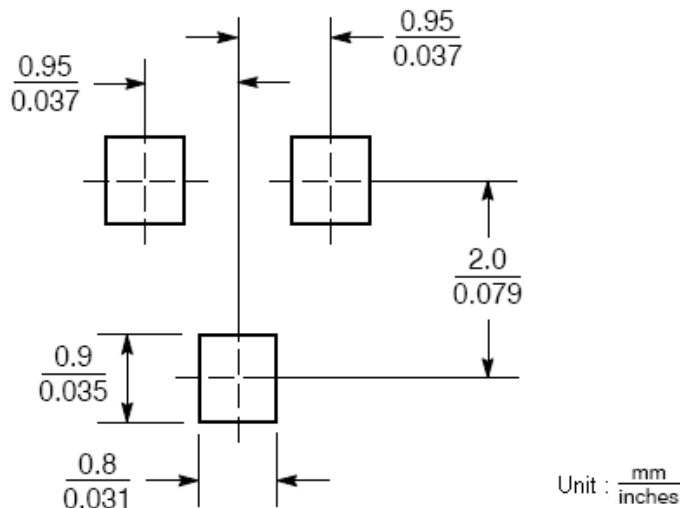
Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply Voltage	VCC	-50	V
Input Voltage	VIN	-30~+5	V
Output Current	IO	-100	mA
	IO(max.)	-100	mA
Power Dissipation	PD	200	mW
Thermal Resistance, Junction to Ambient	RθJA	625	°C/W
Operating Junction Temperature Range	Tj	-55~+150	°C
Storage Temperature Range	Tstg	-55~+150	°C

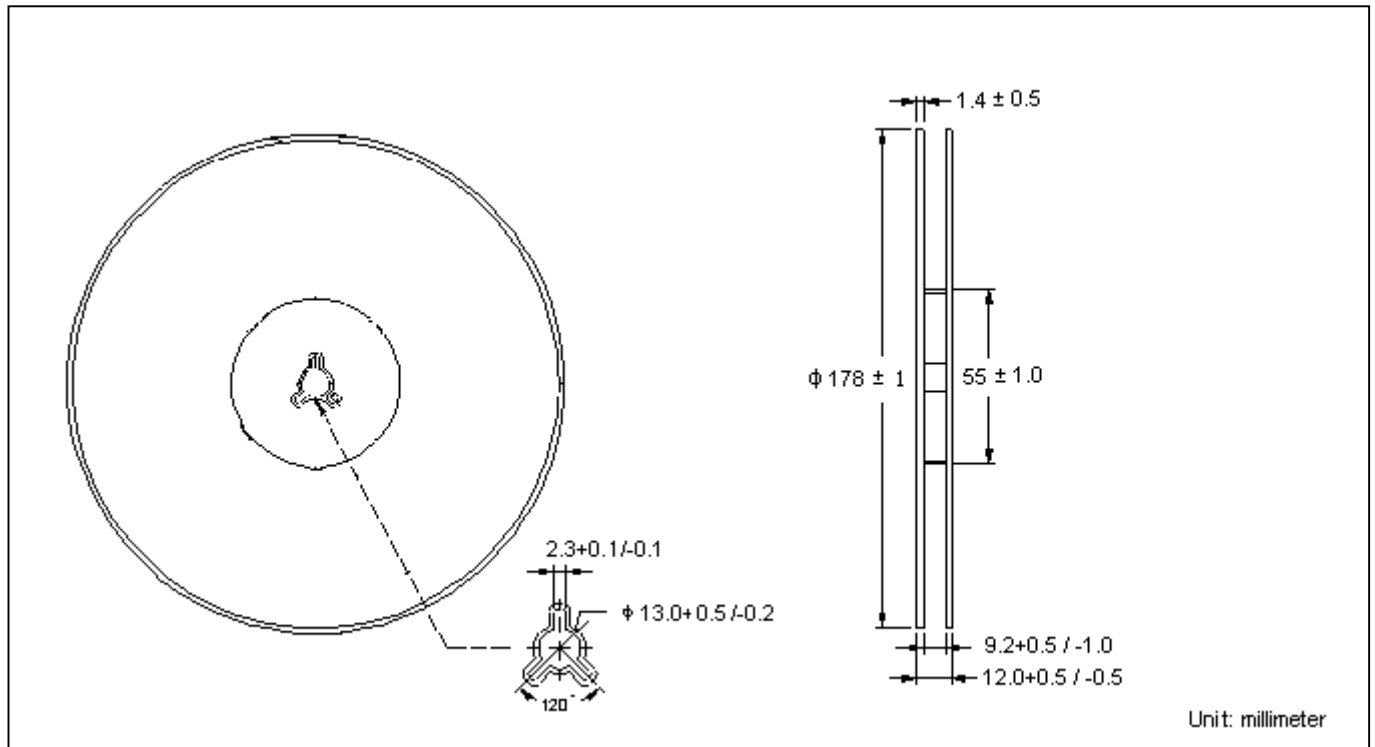
Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Input Voltage	VI(off)	-	-	-0.5	V	VCC=-5V, IO=-100μA
	VI(on)	-1.3	-	-	V	VO=-0.3V, IO=-5mA
Output Voltage	VO(on)	-	-0.1	-0.3	V	IO/II=-5mA/-0.25mA
Input Current	II	-	-	-1.8	mA	VI=-5V
Output Current	IO(off)	-	-	-0.5	μA	VCC=-50V, VI=0V
DC Current Gain	GI	80	-	-	-	VO=-5V, IO=-10mA
Input Resistance	R1	3.29	4.7	6.11	kΩ	-
Resistance Ratio	R2/R1	8	10	12	-	-
Transition Frequency	fT	-	250	-	MHz	VCE=-10V, IC=-5mA, f=100MHz*

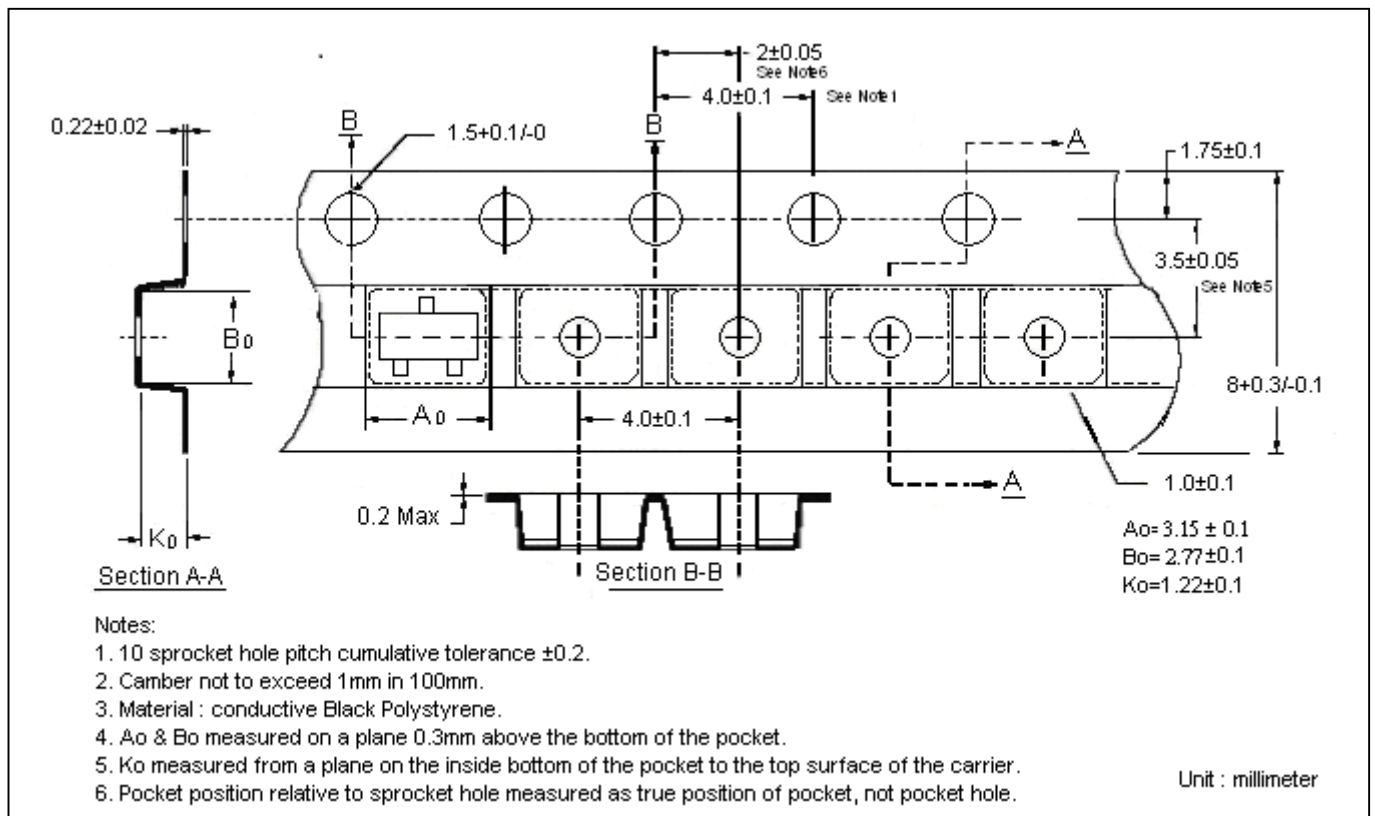
* Transition frequency of the device

Recommended Soldering Footprint


Reel Dimension

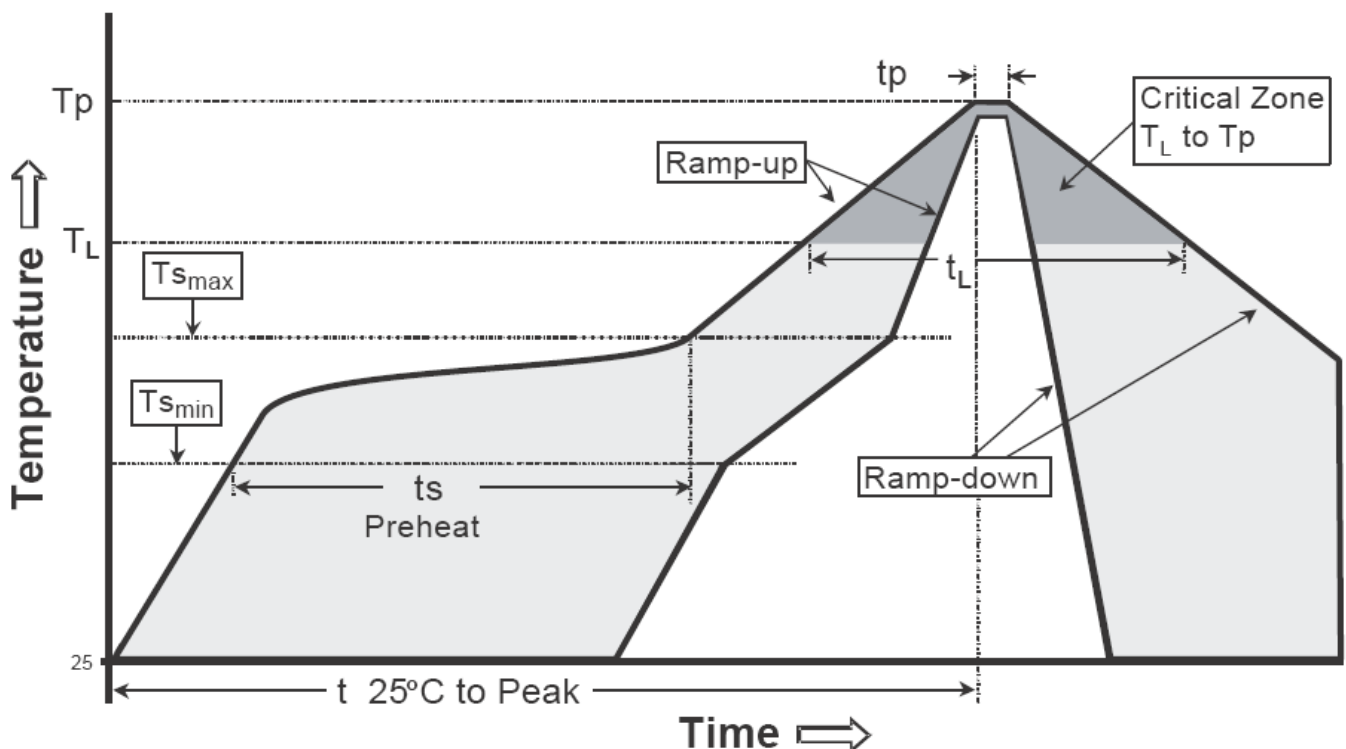


Carrier Tape Dimension



Recommended wave soldering condition

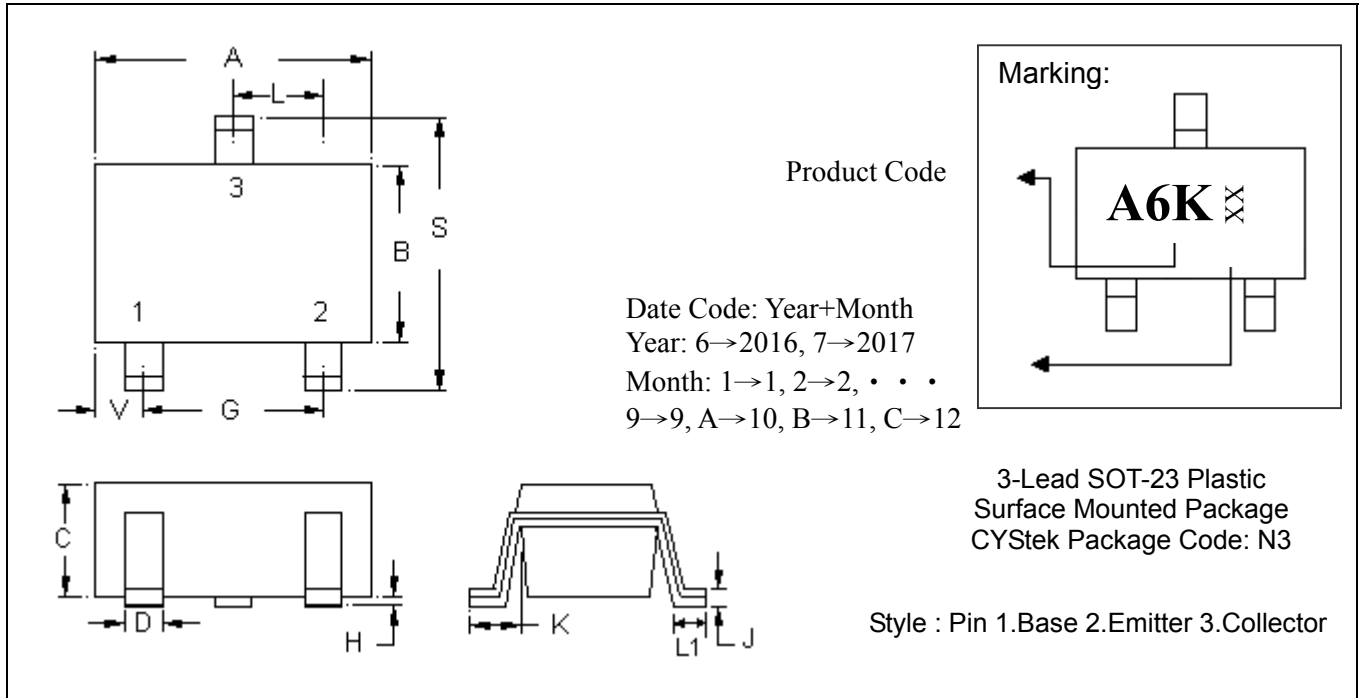
Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow


Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(Ts min)	100°C	150°C
-Temperature Max(Ts max)	150°C	200°C
-Time(ts min to ts max)	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (Tl)	183°C	217°C
- Time (tl)	60-150 seconds	60-150 seconds
Peak Temperature(Tp)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface

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	0.0032	0.0079	0.08	0.20
B	0.0472	0.0551	1.20	1.40	K	0.0118	0.0266	0.30	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	0.1004	2.10	2.55
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0000	0.0040	0.00	0.10	L1	0.0118	0.0197	0.30	0.50

- 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 : Pure tin plated.
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0.

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