PNP Digital Transistors (Built-in Resistors)

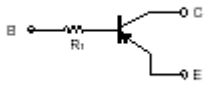
DTA123TN3

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 DTC123TN3

Equivalent Circuit

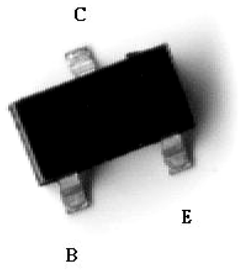
DTA123TN3



R1 = 2.2kΩ
B : Base
C : Collector
E : Emitter

Outline

SOT-23



Absolute Maximum Ratings (Ta=25℃)

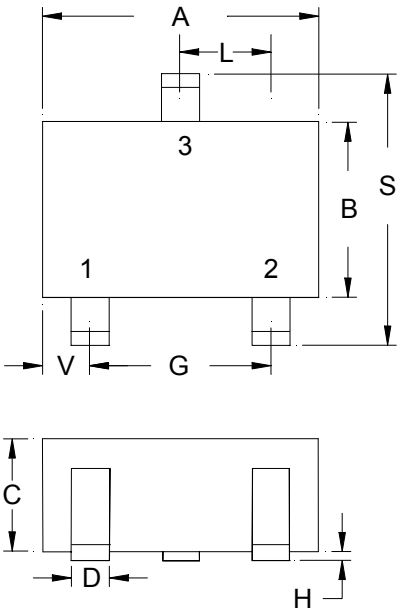
Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Power Dissipation	Pd	200	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Characteristics (Ta=25℃)

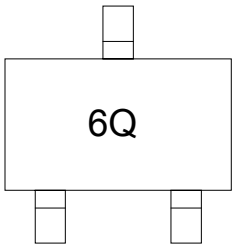
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV_{CBO}	-50	-	-	V	I_C=-50μA
Collector-Emitter Breakdown Voltage	BV_{CEO}	-50	-	-	V	I_C=-1mA
Emitter-Base Breakdown Voltage	BV_{EBO}	-5	-	-	V	I_E=-50μA
Collector-Base Cutoff Current	I_{CBO}	-	-	-0.5	μA	V_{CB}=-50V
Emitter-Base Cutoff Current	I_{EBO}	-	-	-0.5	μA	V_{EB}=-4V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	0.1	-0.3	V	I_C=-5mA, I_B=-0.25mA
DC Current Gain	h_{FE}	100	-	600	-	V_{CE}=-5V, I_C=-1mA
Input Resistance	R	1.54	2.2	2.86	kΩ	-
Transition Frequency	f_T	-	250	-	MHz	V_{CE}=-10V, I_C=-5mA, f=100MHz*

* Transition frequency of the device

SOT-23 Dimension



Marking:



3-Lead SOT-23 Plastic
Surface Mounted Package
CYStek Package Code: N3

Style : Pin 1.Base 2.Emitter 3.Collector

*: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