

Digital Transistor

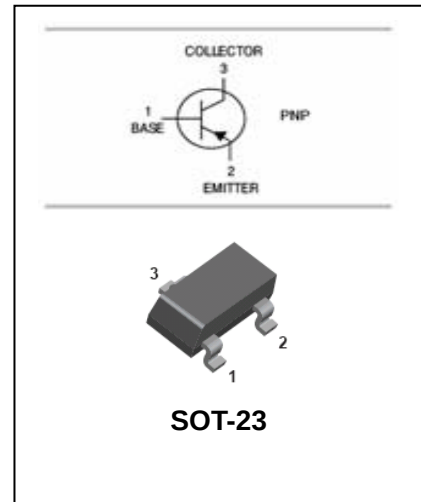
DTA143TCA

FEATURES

- Built-in bias resistor enable the configuration of an inverter circuit without connecting external input resistors.
- 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.



Lead-free



APPLICATIONS

- The PNP style digital transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
DTA143TCA	93	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	-50	V
V _{CEO}	Collector-Emitter Voltage	-50	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current -Continuous	-100	mA
P _C	Collector Dissipation	200	mW
T _J , T _{stg}	Junction and Storage Temperature	-55~150	°C

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

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Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -50\mu A, I_E = 0$	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -50\mu A, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -50V, I_E = 0$			-0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-0.5	μA
DC current gain	h_{FE}	$V_{CE} = -5V, I_C = -1mA$	100		600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -5mA, I_B = -0.25mA$			-0.3	V
Input resistance	R_i		3.29	4.7	6.44	
Transition frequency	f_T	$V_{CE} = -10V, I_E = -5mA$ $f = 100MHz$		250		MHz

PACKAGE OUTLINE

Plastic surface mounted package

SOT-23

Top view of the SOT-23 package. Dimension A is the total width. Dimension B is the width of the central body. Dimension D is the width of the individual leads. Dimension K is the total height from the base to the top of the package.

Side view of the SOT-23 package. Dimension E is the height of the top flange. Dimension J is the thickness of the package at the base.

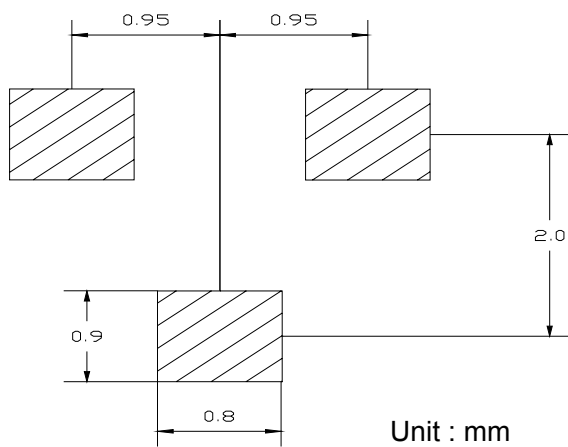
Bottom view of the SOT-23 package. Dimension G is the distance between the mounting pads. Dimension H is the height of the mounting pad. Dimension C is the height of the package from the base to the bottom of the mounting pads.

SOT-23		
Dim	Min	Max
A	2.85	2.95
B	1.25	1.35
C	1.0Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1Typical	
K	2.35	2.45
All Dimensions in mm		

SOLDERING FOOTPRINT

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DTA143TCA



PACKAGE INFORMATION

Device	Package	Shipping
DTA143TCA	SOT-23	3000/Tape&Reel