WILLAS
RoHS COMPLIANT

PNP Digital Transistor

DTA114TCA

Features

- **Pb-Free package is available**

  RoHS product for packing code suffix "G"

  Halogen free product for packing code suffix "H"
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- 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
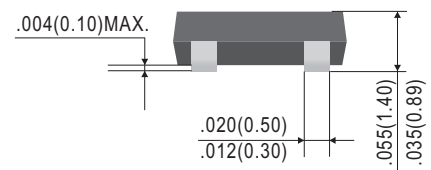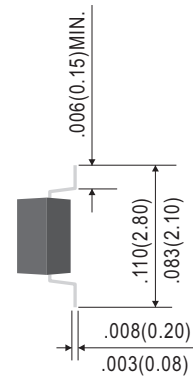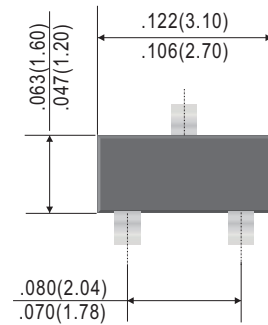
Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-100	mA
Collector Dissipation	P_C	200	mW
Junction Temperature Range	T_J	-55~150	℃
Storage Temperature Range	T_{STG}	-55~150	℃

Electrical Characteristics

Sym	Parameter	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=-50uA, I_E=0)	-50	---	---	V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (I_C=-1mA, I_B=0)	-50	---	---	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_E=-50uA, I_C=0)	-5	---	---	V
I_{CBO}	Collector Cut-off Current (V_{CB}=-50V, I_E=0)	---	---	-0.5	uA
I_{EBO}	Emitter Cut-off Current (V_{EB}=-4V, I_C=0)	---	---	-0.5	uA
h_{FE}	DC Current Gain (V_{CE}=-5V, I_C=-1mA)	100	250	600	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=-10mA, I_B=-1mA)	---	---	-0.3	V
R_1	Input Resistor	7	10	13	$K\Omega$
f_T	Transition Frequency (V_{CE}=-10V, I_C=-5mA, f=100MHz)	---	250	---	MHz

*Marking: 94

SOT-23

.122(3.10)
.106(2.70)
.063(1.60)
.047(1.20)
.080(2.04)
.070(1.78)
.006(0.15)MIN.
.110(2.80)
.083(2.10)
.008(0.20)
.003(0.08)
.004(0.10)MAX.
.020(0.50)
.012(0.30)
.055(1.40)
.035(0.89)

Dimensions in inches and (millimeters)

Suggested Solder Pad Layout

.031
.800
.035
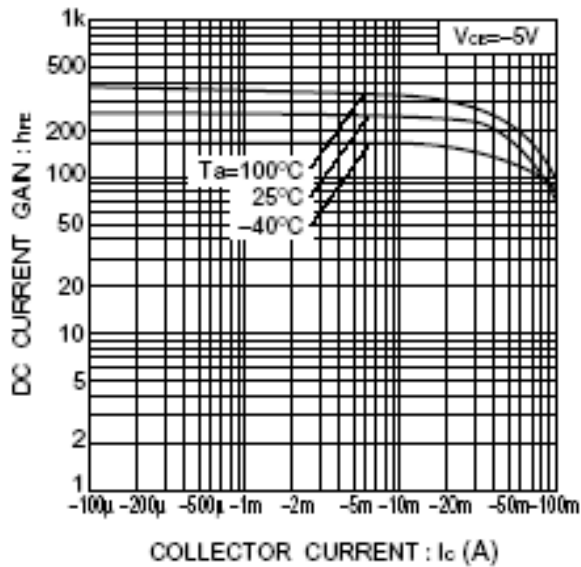.900
.079
2.000
.037
.950
.037
.950

inches
mm
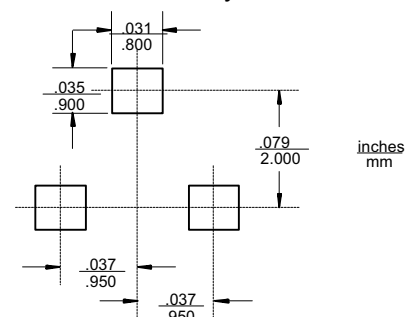
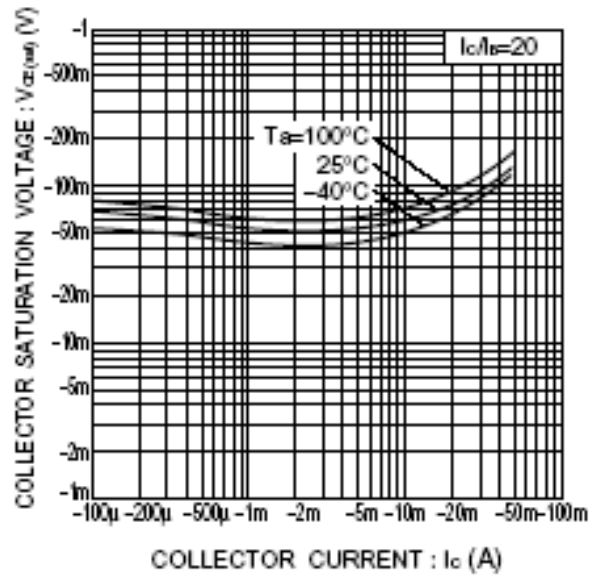Fig.1 DC current gain vs. collector current

Fig.2 Collector-emitter saturation voltage vs. collector current

●**Equivalent circuit**

B : Base
C : Collector
E : Emitter