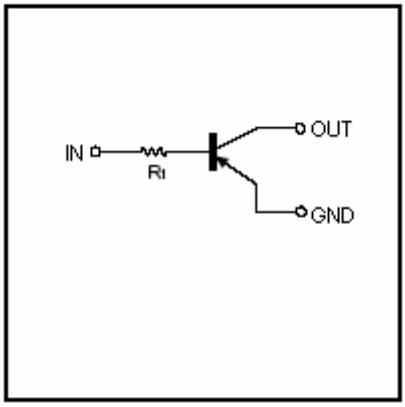
POWER SKY (H.K.) LTD.

Digital transistors (built-in resistors)

DTA144TE/ DTA144TUA/ DTA144TCA/DTA144TKA/DTA144TSA

DIGITAL TRANSISTOR (PNP)

●Equivalent circuit

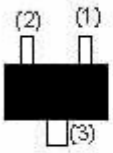


Features

1) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
2) 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.
3) Only the on/off conditions need to be set for operation, making device design easy.

PIN CONNENCTIONS AND MARKING

DTA144TE

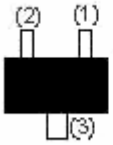


(1) IN
(2) GND
(3) OUT

SOT-523

Addreviated symbol: 96

DTA144TUA

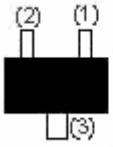


(1) IN
(2) GND
(3) OUT

SOT-323

Addreviated symbol: 96

DTA144TKA

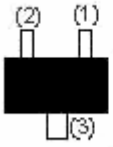


(1) IN
(2) GND
(3) OUT

SOT-23-3L

Addreviated symbol: 96

DTA144TCA

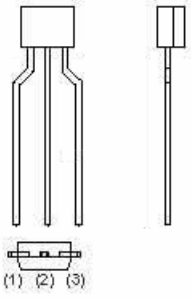


(1) IN
(2) GND
(3) OUT

SOT-23

Addreviated symbol: 96

DTA144TSA



(1) GND
(2) OUT
(3) IN

TO-92S

MAXIMUM RATINGS* T_A=25℃ unless otherwise noted

Symbol	Parameter	LIMITS(DTA144T□)					Units
		E	UA	KA	CA	SA	
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	150	200			300	mW
Tj	Junction temperature	150					℃
T_J, T_{stg}	Junction and Storage Temperature	-55~+150					℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C =-50μA,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=-50μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-50V,I_E=0			-0.5	uA
Emitter cut-off current	I_{EBO}	V_{EB}=-4V,I_C=0			-0.5	uA
DC current gain	h_{FE}	V_{CE}=-5V,I_C=-1mA	100	300	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-5mA,I_B=-0.5mA			-0.3	V
Transition frequency	f_T	V_{CE}=-10V,I_E=5mA, f=100MHz		250		MHz
Imput resistor	R1		32.9	47	61.1	kΩ

Typical Characteristics

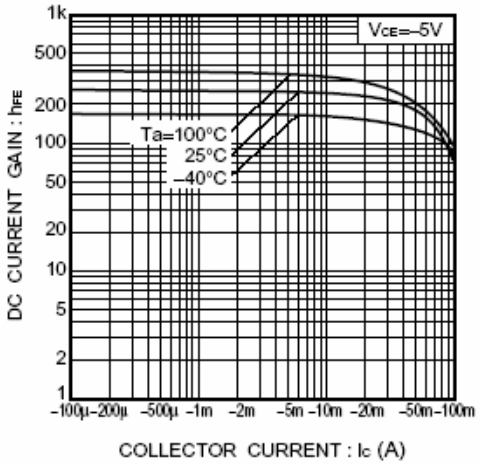


Fig.1 DC current gain vs.collector current

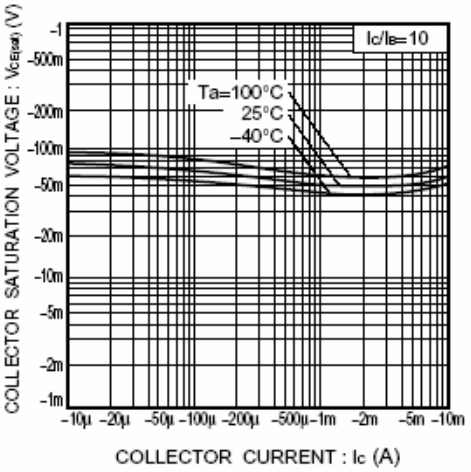


Fig.2 Collector-emitter saturation voltage vs.collector current