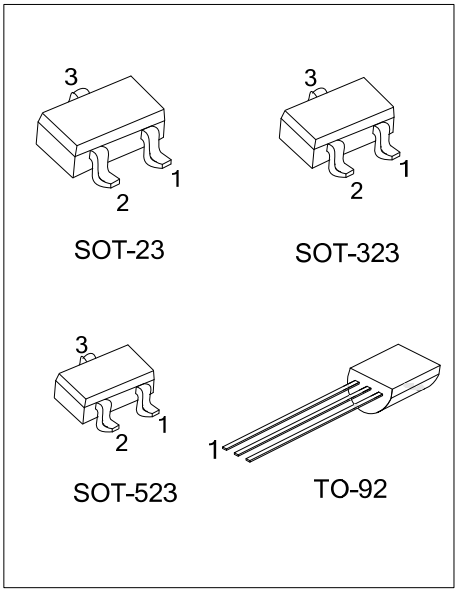
DTA124E

PNP EPITAXIAL SILICON TRANSISTOR

PNP DIGITAL TRANSISTOR (BUILT-IN RESISTORS)



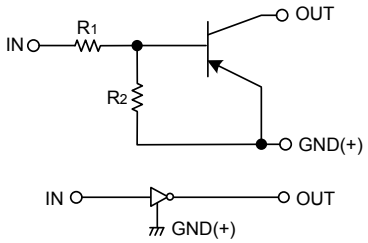
■ FEATURES

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

■ EQUIVALENT CIRCUIT



■ ORDERING INFORMATION

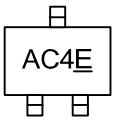
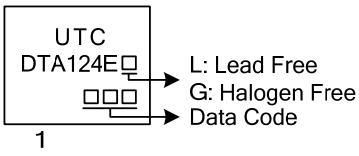
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
-	DTA124EG-AE3-R	SOT-23	G	I	O	Tape Reel
-	DTA124EG-AL3-R	SOT-323	G	I	O	Tape Reel
-	DTA124EG-AN3-R	SOT-523	G	I	O	Tape Reel
DTA124EL-T92-B	DTA124EG-T92-B	TO-92	G	O	I	Tape Box
DTA124EL-T92-K	DTA124EG-T92-K	TO-92	G	O	I	Bulk

Note: Pin Assignment: G: GND I: IN O: OUT

DTA124EG-AE3-R
(1)Packing Type
(2)Package Type
(3)Green Package

(1) B: Tape Box, K: Bulk, R: Tape Reel
(2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523
T92: TO-92
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

SOT-23 / SOT-323 / SOT-523	TO-92
	

■ ABSOLUATE MAXIUM RATINGS (T_A = 25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V_{CC}	-50	V
Input Voltage		V_{IN}	-40 ~ +10	V
Output Current		I_C	-100	mA
		I_O	-30	
Power Dissipation	SOT-23/SOT-323	P_D	200	mW
	SOT-523		150	
	TO-92		625	
Junction Temperature		T_J	150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T_A = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{I(OFF)}$	V_{CC}= -5V, I_{OUT}= -100μA			-0.5	V
	$V_{I(ON)}$	V_{OUT}= -0.2V, I_{OUT}= -5mA	-3			
Output Voltage	$V_{O(ON)}$	I_{OUT}/I_{IN}= -10mA / -0.5 mA		-0.1	-0.3	V
Input Current	I_I	V_{IN}= -5V			-0.36	mA
Output Current	$I_{O(OFF)}$	V_{CC}= -50V , V_{IN}=0V			-0.5	μA
DC Current Gain	G_I	V_{OUT}= -5V, I_{OUT}= -5mA	56			
Input Resistance	R1		15.4	22	28.6	kΩ
Resistance Ratio	R2/R1		0.8	1	1.2	
Transition Frequency	f_T	V_{CE}= -10 V, I_E = 5mA, f=100MHz (Note)		250		MHz

Note: Transition frequency of the device

■ TYPICAL CHARACTERICS

Fig.1 Input voltage vs.output current
(ON characterristics)

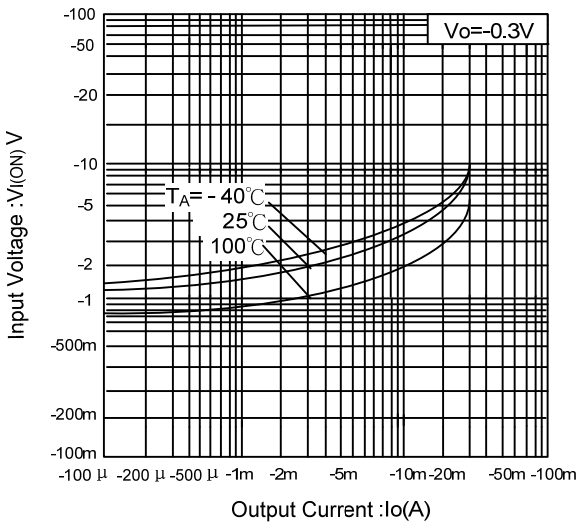


Fig.2 Output current vs Input voltage.
(OFF characterristics)

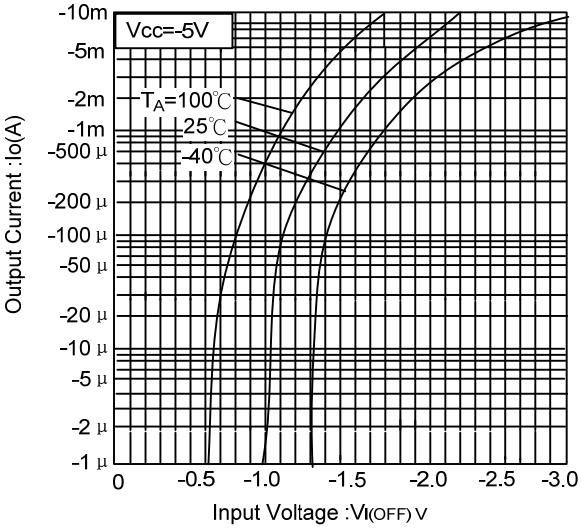


Fig.3 DC current gain vs.output current

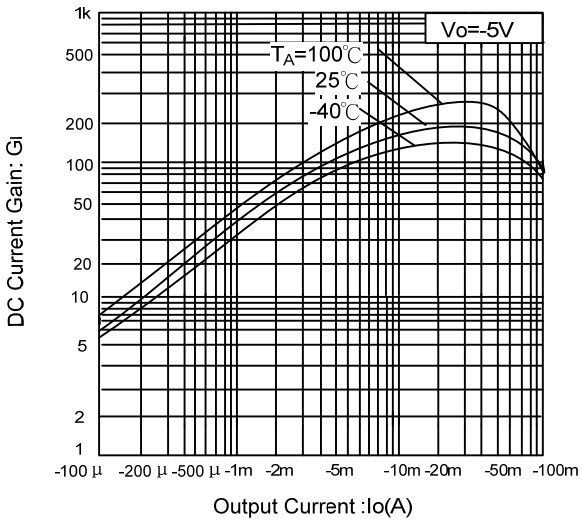


Fig.4Output voltage vs.output current