



## DTA114Y

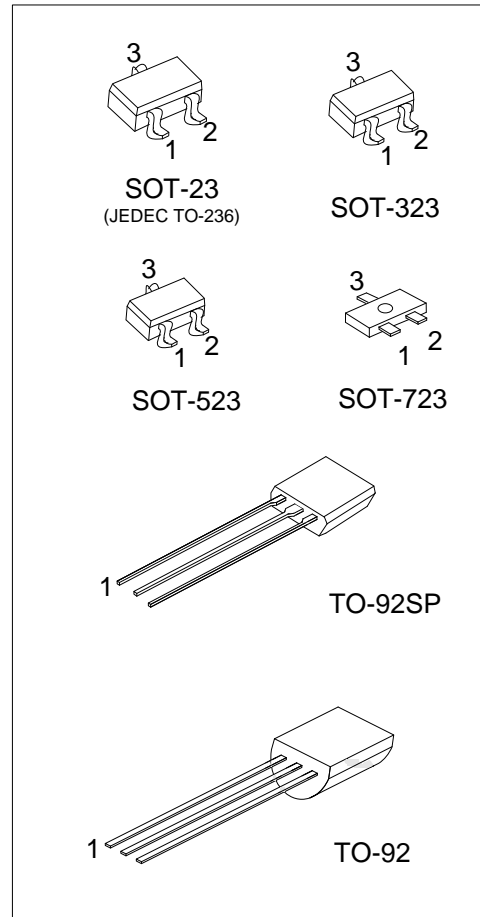
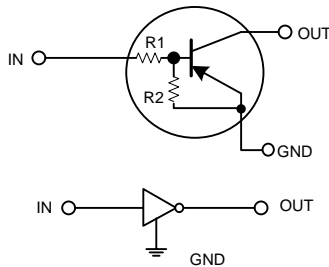
## PNP SILICON TRANSISTOR

### DIGITAL TRANSISTOR (BUILT-IN BIAS RESISTORS)

#### FEATURES

- \* Built-in Bias Resistors that Implies Easy ON/OFF Applications.
- \* The Bias Resistors are Thin-Film Resistors with Complete Isolation to Allow Positive Input.

#### EQUIVALENT CIRCUIT



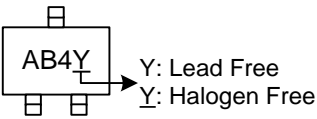
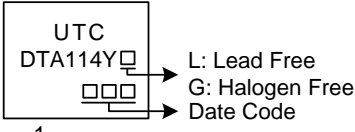
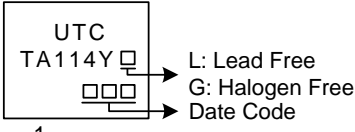
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
DTA114YL-AE3-R	DTA114YG-AE3-R	SOT-23	I	G	O	Tape Reel
DTA114YL-AL3-R	DTA114YG-AL3-R	SOT-323	I	G	O	Tape Reel
DTA114YL-AN3-R	DTA114YG-AN3-R	SOT-523	I	G	O	Tape Reel
DTA114YL-AQ3-R	DTA114YG-AQ3-R	SOT-723	I	G	O	Tape Reel
DTA114YL-T92-K	DTA114YG-T92-K	TO-92	G	O	I	Bulk
DTA114YL-T92-B	DTA114YG-T92-B	TO-92	G	O	I	Tape Box
DTA114YL-T9S-K	DTA114YG-T9S-K	TO-92SP	G	O	I	Bulk
DTA114YL-T9S-B	DTA114YG-T9S-B	TO-92SP	G	O	I	Tape Box

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

<p>DTA114YG-AE3-R</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel</p> <p>(2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523, AQ3: SOT-723, T92: TO-92, T9S: TO-92SP</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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### MARKING

SOT-23 / SOT-323 SOT-523 / SOT-723	TO-92	TO-92SP
 <p>Y: Lead Free Y: Halogen Free</p>	 <p>L: Lead Free G: Halogen Free Date Code</p>	 <p>L: Lead Free G: Halogen Free Date Code</p>

### ■ ABSOLUTE MAXIMUM RATING (T<sub>A</sub>=25°C, unless others specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V <sub>CC</sub>	-50	V
Input Voltage		V <sub>IN</sub>	-40~+6	V
Output Current		I <sub>OUT</sub>	-70	mA
		I <sub>C(MAX)</sub>	-100	mA
Power Dissipation	SOT-23/SOT-323	P <sub>D</sub>	410	mW
	SOT-523		390	mW
	SOT-723		375	mW
	TO-92		680	mW
	TO-92SP		660	mW
Junction Temperature		T <sub>J</sub>	+150	°C
Storage Temperature		T <sub>STG</sub>	-55 ~ +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.

### ■ THERMAL DATA (NOTE)

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-23	θ <sub>JA</sub>	302	°C/W
	SOT-323		315	°C/W
	SOT-523		318	°C/W
	SOT-723		333	°C/W
	TO-92		183	°C/W
	TO-92SP		190	°C/W
Junction to Case	SOT-23	θ <sub>JC</sub>	130	°C/W
	SOT-323		143	°C/W
	SOT-523		145	°C/W
	SOT-723		155	°C/W
	TO-92		89	°C/W
	TO-92SP		95	°C/W

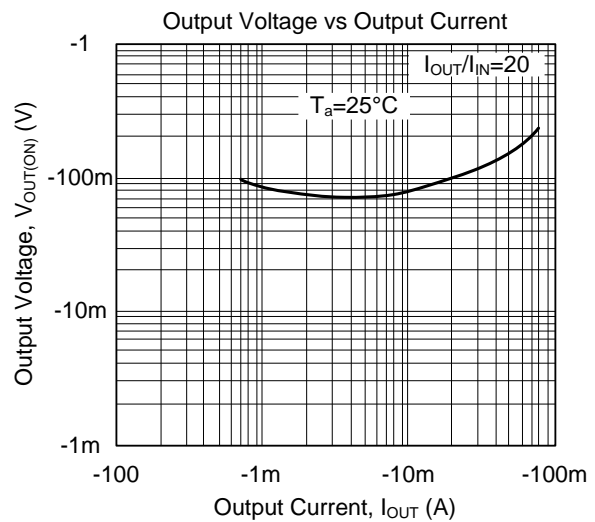
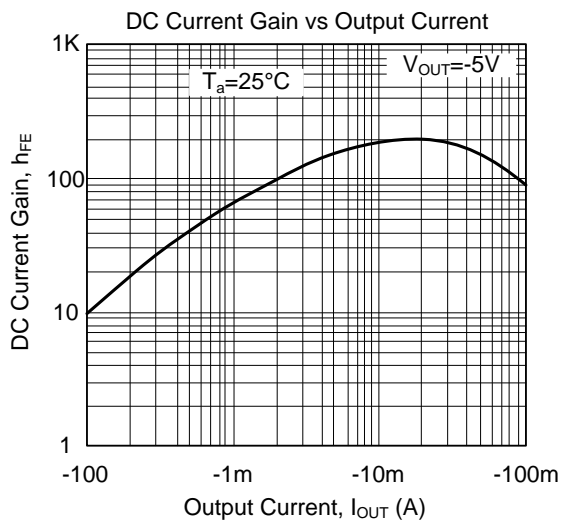
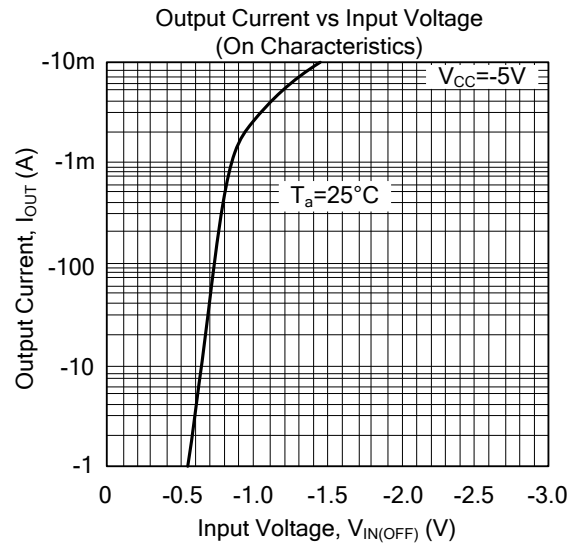
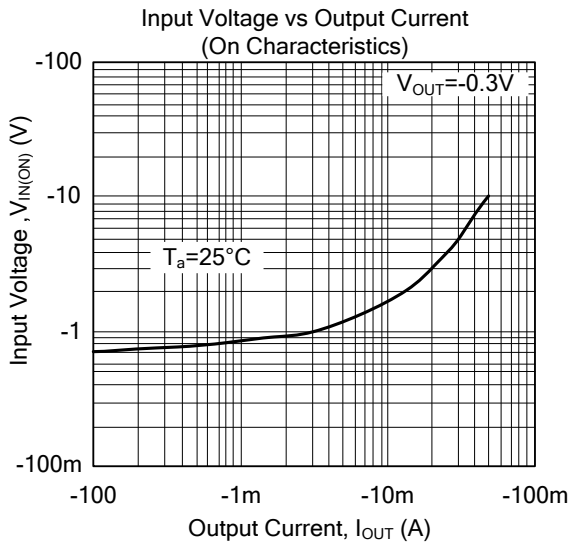
Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

### ■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	V <sub>IN(OFF)</sub>	V <sub>CC</sub> =-5V, I <sub>OUT</sub> =-100μA			-0.3	V
	V <sub>IN(ON)</sub>	V <sub>OUT</sub> =-0.3V, I <sub>OUT</sub> =-1mA	-1.4			V
Output Voltage	V <sub>OUT(ON)</sub>	I <sub>OUT</sub> /I <sub>IN</sub> =-5mA/-0.25mA		-0.1	-0.3	V
Input Current	I <sub>IN</sub>	V <sub>IN</sub> =-5V			-0.88	mA
Output Current	I <sub>OUT(OFF)</sub>	V <sub>CC</sub> =-50V, V <sub>IN</sub> =0V			-0.5	μA
DC Current Gain	h <sub>FE</sub>	V <sub>OUT</sub> =-5V, I <sub>OUT</sub> =-5mA	68			
Input Resistance	R <sub>1</sub>		7	10	13	KΩ
Resistance Ratio	R <sub>2</sub> /R <sub>1</sub>		3.7	4.7	5.7	
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>E</sub> =5mA, f=100MHz(Note)		250		MHz

Note: Transition frequency of the device.

## ■ TYPICAL CHARACTERISTICS



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