



# DTA114Y

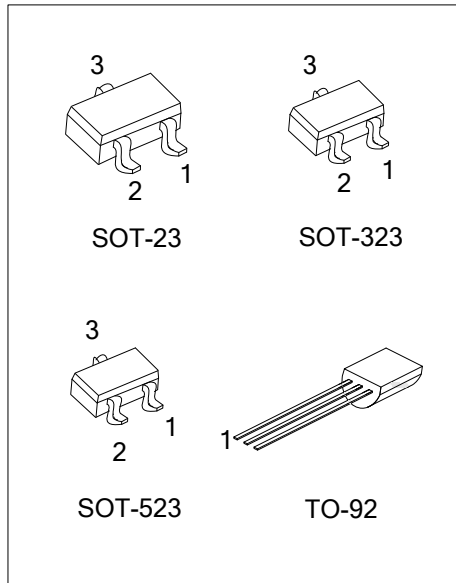
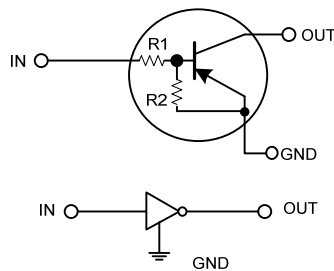
## PNP SILICON TRANSISTOR

### 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	
-	DTA114YG-AE3-R	SOT-23	G	I	O	Tape Reel
-	DTA114YG-AL3-R	SOT-323	G	I	O	Tape Reel
-	DTA114YG-AN3-R	SOT-523	G	I	O	Tape Reel
DTA114YL-T92-B	DTA114YG-T92-B	TO-92	G	O	I	Tape Box
DTA114YL-T92-K	DTA114YG-T92-K	TO-92	G	O	I	Bulk

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

<p>DTA114YG-AE3-R</p>	<p>(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</p>
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■ MARKING

SOT-23 / SOT-323 / SOT-523	TO-92
	<p>L: Lead Free G: Halogen Free Data Code</p>

### ■ ABSOLUTE MAXIMUM RATING

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		$V_{CC}$	-50	V
Input Voltage		$V_{IN}$	-40~+6	V
Output Current		$I_{OUT}$	-70	mA
		$I_{C(MAX)}$	-100	mA
Power Dissipation	SOT-523	$P_D$	150	mW
	SOT-23/SOT-323		200	mW
	TO-92		625	mW
Junction Temperature		$T_J$	+150	°C
Storage Temperature		$T_{STG}$	-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

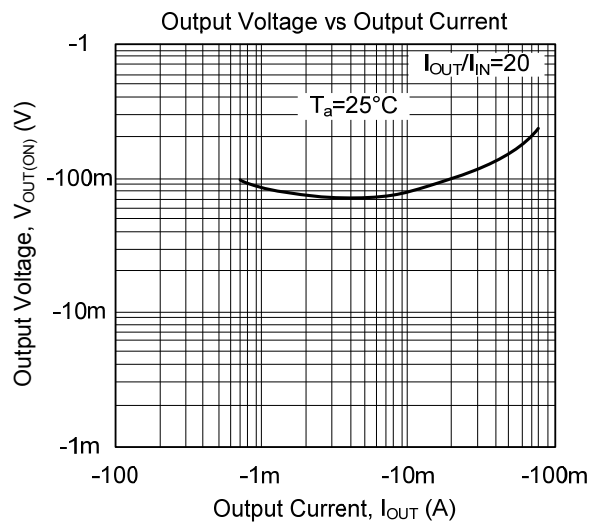
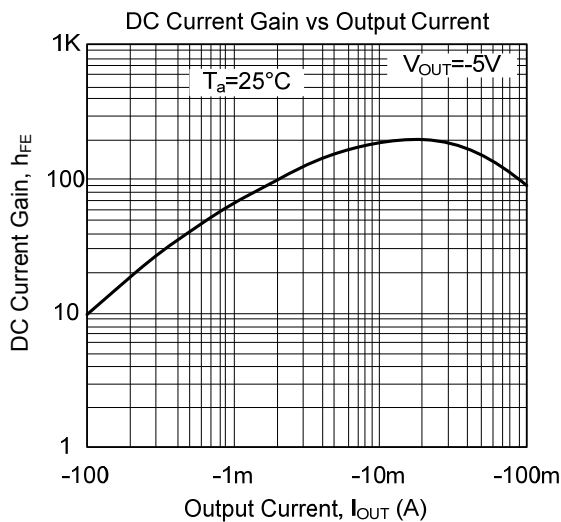
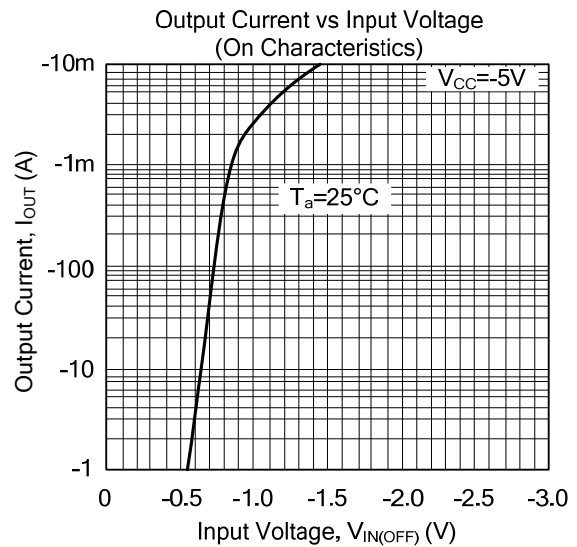
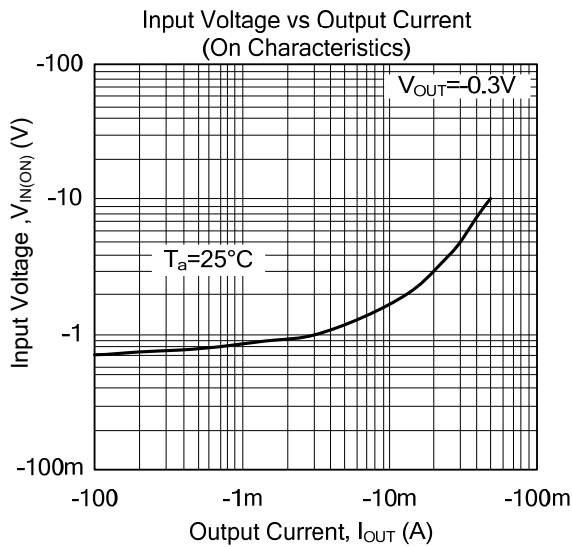
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-23	$\theta_{JA}$	302	°C/W
	SOT-323		315	°C/W
	SOT-523		318	°C/W
	TO-92		183	°C/W
Junction to Case	SOT-23	$\theta_{JC}$	145	°C/W
	SOT-323		143	°C/W
	SOT-523		130	°C/W
	TO-92		89	°C/W

### ■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{IN(OFF)}$	$V_{CC}=-5V, I_{OUT}=-100\mu A$			-0.3	V
	$V_{IN(ON)}$	$V_{OUT}=-0.3V, I_{OUT}=-1mA$	-1.4			V
Output Voltage	$V_{OUT(ON)}$	$I_{OUT}/I_{IN}=-5mA/-0.25mA$		-0.1	-0.3	V
Input Current	$I_{IN}$	$V_{IN}=-5V$			-0.88	mA
Output Current	$I_{OUT(OFF)}$	$V_{CC}=-50V, V_{IN}=0V$			-0.5	$\mu A$
DC Current Gain	$h_{FE}$	$V_{OUT}=-5V, I_{OUT}=-5mA$	68			
Input Resistance	$R_1$		7	10	13	K $\Omega$
Resistance Ratio	$R_2/R_1$		3.7	4.7	5.7	
Transition Frequency	$f_T$	$V_{CE}=-10V, I_E=5mA, f=100MHz(\text{Note})$		250		MHz

Note: Transition frequency of the device.

## TYPICAL CHARACTERISTICS



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