



DTA114Y

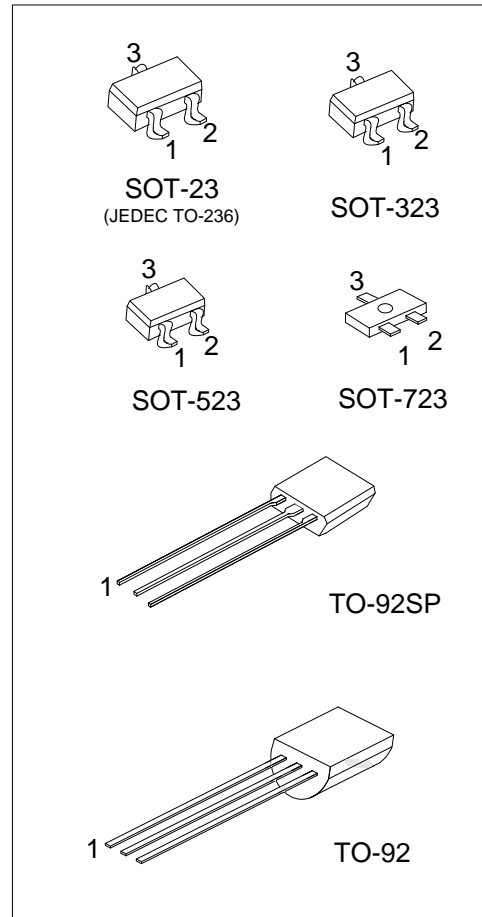
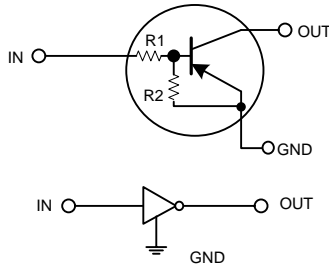
PNP SILICON TRANSISTOR

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



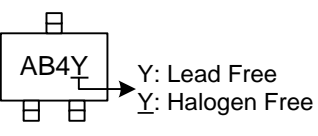
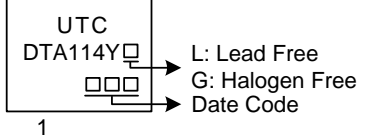
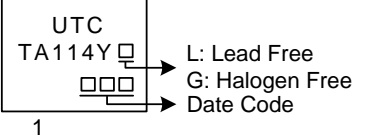
■ ORDERING INFORMATION

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)Packing Type (2)Package Type (3)Green Package</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523, AQ3: SOT-723, T92: TO-92, T9S: TO-92SP (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** ($T_A=25^\circ\text{C}$, unless others specified)

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-23/SOT-323	P_D	410	mW
	SOT-523		390	mW
	SOT-723		375	mW
	TO-92		680	mW
	TO-92SP		660	mW
Junction Temperature		T_J	+150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-55 ~ +150	$^\circ\text{C}$

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_{JA}	302	$^\circ\text{C/W}$
	SOT-323		315	$^\circ\text{C/W}$
	SOT-523		318	$^\circ\text{C/W}$
	SOT-723		333	$^\circ\text{C/W}$
	TO-92		183	$^\circ\text{C/W}$
	TO-92SP		190	$^\circ\text{C/W}$
Junction to Case	SOT-23	θ_{JC}	130	$^\circ\text{C/W}$
	SOT-323		143	$^\circ\text{C/W}$
	SOT-523		145	$^\circ\text{C/W}$
	SOT-723		155	$^\circ\text{C/W}$
	TO-92		89	$^\circ\text{C/W}$
	TO-92SP		95	$^\circ\text{C/W}$

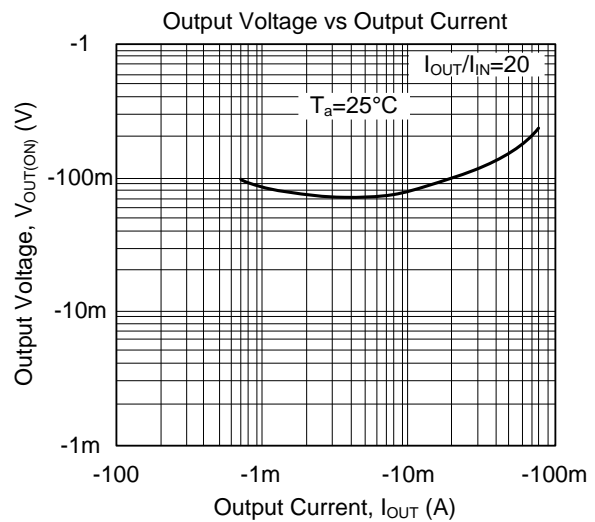
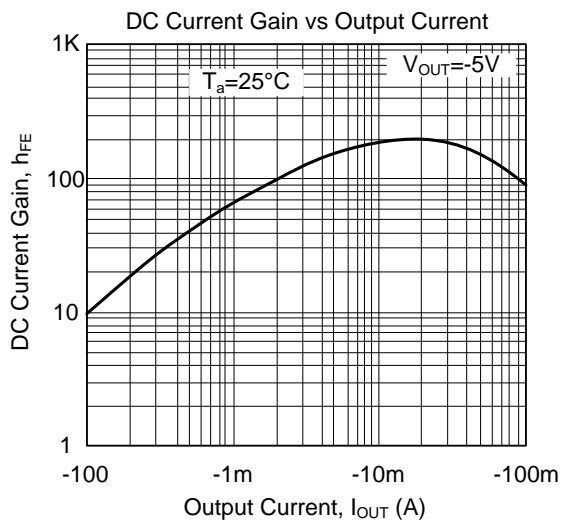
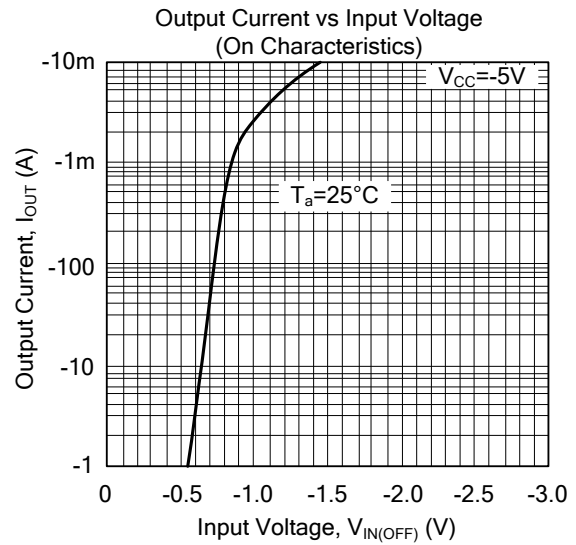
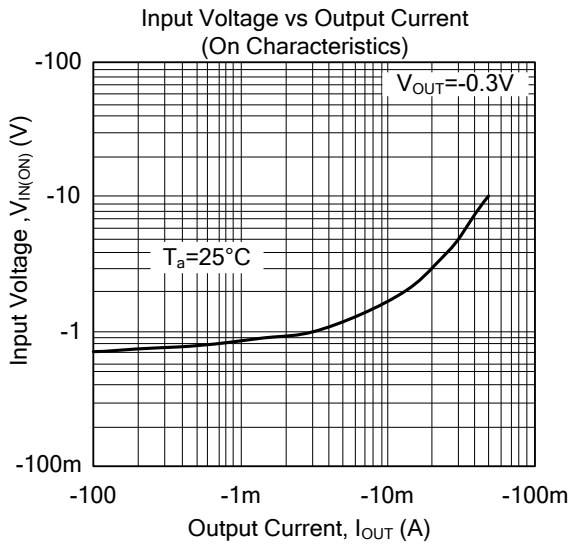
Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

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

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

Note: Transition frequency of the device.

TYPICAL CHARACTERISTICS



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