

DTA115E

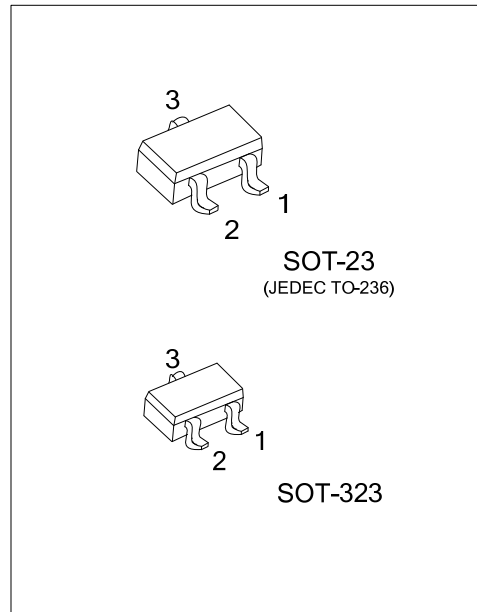
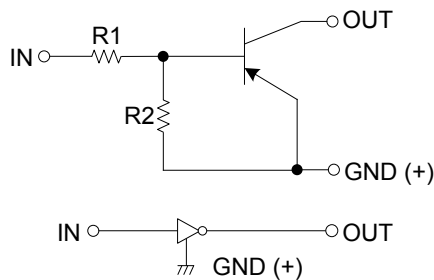
PNP EPITAXIAL SILICON TRANSISTOR

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.

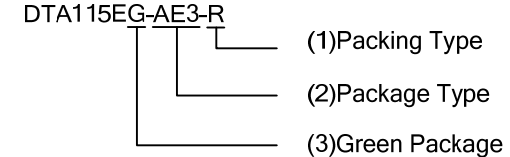
■ EQUIVALENT CIRCUIT



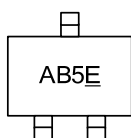
■ ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
DTA115EG-AE3-R	SOT-23	G	I	O	Tape Reel
DTA115EG-AL3-R	SOT-323	G	I	O	Tape Reel

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

<p>DTA115EG-AE3-R</p> 	<p>(1) R: Tape Reel</p> <p>(2) AE3: SOT-23, AL3: SOT-323</p> <p>(3) G: Halogen Free and Lead Free</p>
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■ MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	-40~+10	V
Output Current	I_{OUT}	-20	mA
	$I_{C(MAX)}$	-100	
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ +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.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{IN(OFF)}$	$V_{CC} = -5V, I_{OUT} = -100\mu\text{A}$			-0.5	V
	$V_{IN(ON)}$	$V_{OUT} = -0.3V, I_{OUT} = -1\text{mA}$	-3			
Output Voltage	$V_{OUT(ON)}$	$I_{OUT} = -5\text{mA}, I_{IN} = -0.25\text{mA}$		-0.1	-0.3	V
Input Current	I_{IN}	$V_{IN} = -5V$			-0.15	mA
Output Current	$I_{OUT(OFF)}$	$V_{CC} = -50V, V_{IN} = 0V$			-0.5	μA
DC Current Gain	G_1	$V_{OUT} = -5V, I_{OUT} = -5\text{mA}$	82			
Input Resistance	R_1		70	100	130	k Ω
Resistance Ratio	R_2/R_1		0.8	1	1.2	
Transition Frequency	f_T	$V_{CE} = -10V, I_E = 5\text{mA}, f = 100\text{MHz}$ (Note)		250		MHz

Note: Transition frequency of the device

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