



DTA115E

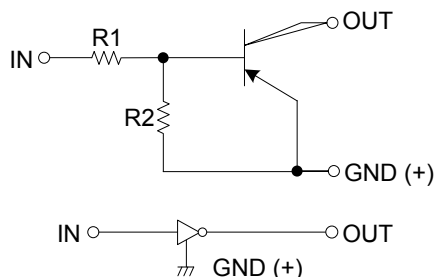
PNP EPITAXIAL SILICON TRANSISTOR

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

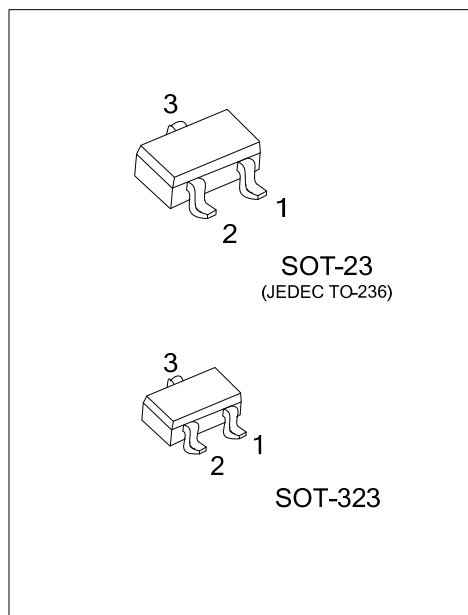
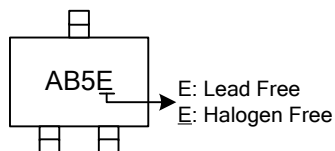


■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
DTA115EL-AE3-R	DTA115EG-AE3-R	SOT-23	G	I	O	Tape Reel
DTA115EL-AL3-R	DTA115EG-AL3-R	SOT-323	G	I	O	Tape Reel

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

■ 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	$V_{IN(OFF)}$	$V_{CC} = -5V, I_{OUT} = -100\mu A$			-0.5	V
	$V_{IN(ON)}$	$V_{OUT} = -0.3V, I_{OUT} = -1mA$	-3			
Output Voltage	$V_{OUT(ON)}$	$I_{OUT} = -5mA, I_{IN} = -0.25mA$		-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_I	$V_{OUT} = -5V, I_{OUT} = -5mA$	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	$V_{CE} = -10V, I_E = 5mA, f = 100MHz$ (Note)		250		MHz

Note: Transition frequency of the device

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