



DTD113EC

Preliminary

NPN SILICON TRANSISTOR

NPN DIGITAL TRANSISTOR (BUILT-IN BIAS RESISTORS)

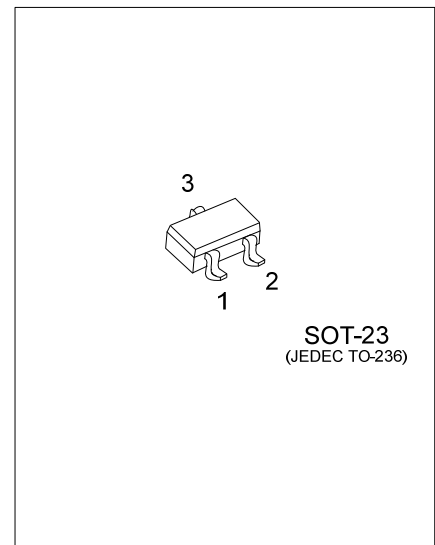
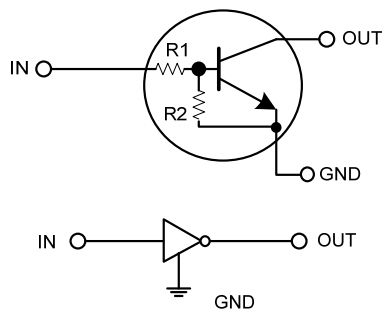
DESCRIPTION

The UTC **DTD113EC** is an NPN epitaxial transistor; it uses UTC's advanced technology to provide the customers with low collector-emitter saturation voltage, etc.

FEATURES

- * Built-in bias resistors that implies easy ON/OFF applications.
- * The bias resistors are thin-film resistors with complete isolation to allow negative input.

SYMBOL



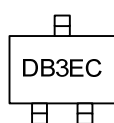
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
DTD113ECL-AE3-R	DTD113ECG-AE3-R	SOT-23	G	I	O	Tape Reel

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

<p>DTD113ECG-AE3-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) R: Tape Reel (2) AE3: SOT-23 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless others specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{CC}	50	V
Input Voltage	V _{IN}	-10 ~ +10	V
Output Current	I _{OUT}	500	mA
Power Dissipation	P _D	200	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.

■ ELECTRICAL SPECIFICATIONS (T_A=25°C, unless others specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	V _{I(OFF)}	V _{CC} =5V, I _{OUT} =100μA			0.5	V
	V _{I(ON)}	V _{OUT} =0.3V, I _{OUT} =20mA	3.0			
Output Voltage	V _{O(ON)}	I _{OUT} / I _{IN} =50mA/2.5mA			0.3	V
Input Current	I _I	V _{IN} =5V			7.2	mA
Output Current	I _{O(OFF)}	V _{CC} =50V, V _{IN} =0V			0.5	μA
DC Current Gain	h _{FE}	V _{OUT} =5V, I _{OUT} =50mA	33			
Input Resistance	R ₁		0.7	1.0	1.3	kΩ
Resistance Ratio	R ₂ / R ₁		0.8	1.0	1.2	
Transition Frequency	f _T	V _{CE} =10V, I _E =-50mA, f=100MHz (Note)		200		MHz

Note: Transition frequency of the device.

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