



DTC115E

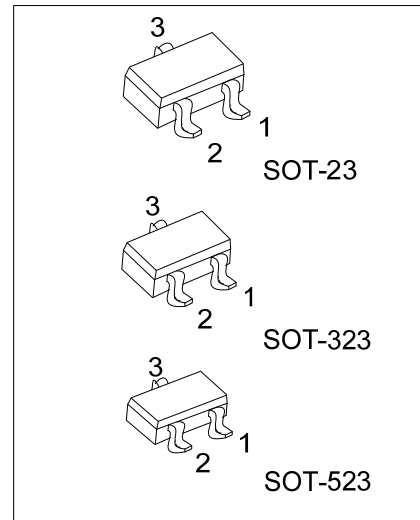
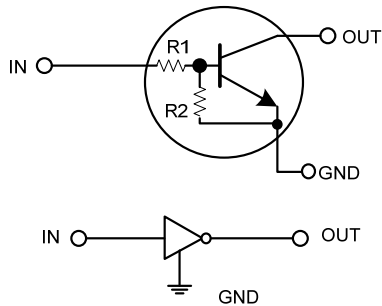
NPN SILICON TRANSISTOR

NPN 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 negative input.

■ EQUIVALENT CIRCUIT



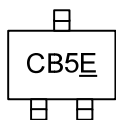
■ ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
DTC115EG-AE3-R	SOT-23	G	I	O	Tape Reel
DTC115EG-AL3-R	SOT-323	G	I	O	Tape Reel
DTC115EG-AN3-R	SOT-523	G	I	O	Tape Reel

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

<p>DTC115EG-AE3-R</p>	<p>(1) R: Tape Reel</p> <p>(2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523</p> <p>(3) G: Halogen Free and Lead Free</p>
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■ MARKING



■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V _{CC}	50	V
Input Voltage		V _{IN}	-10 ~ +40	V
Output Current		I _{OUT}	20	mA
		I _{OUT(MAX)}	100	
Power Dissipation	SOT-23/SOT-323	P _C	200	mW
	SOT-523		150	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.

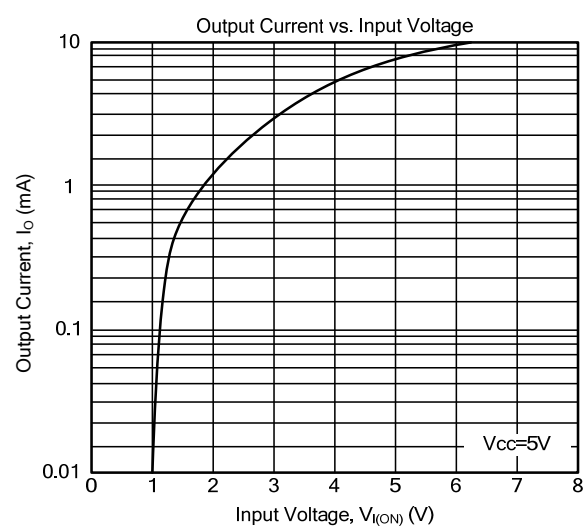
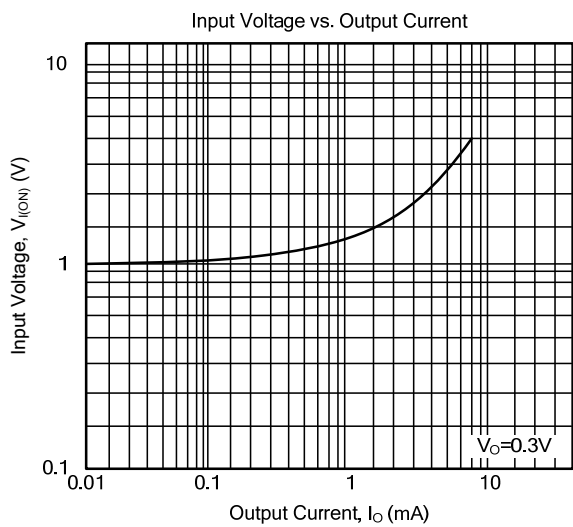
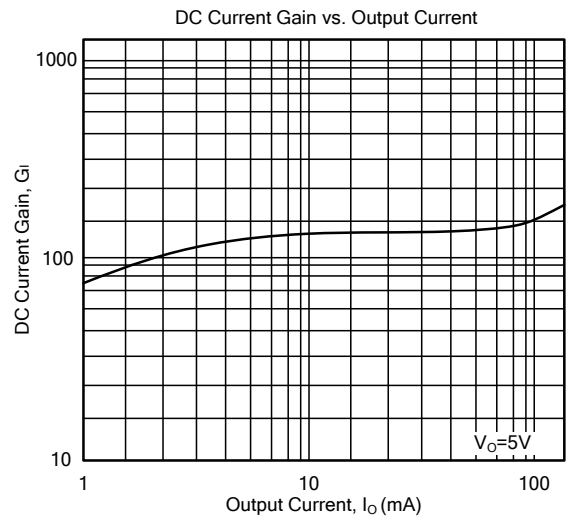
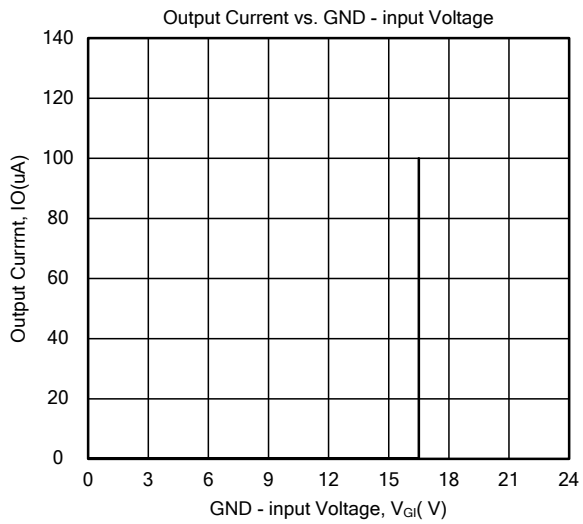
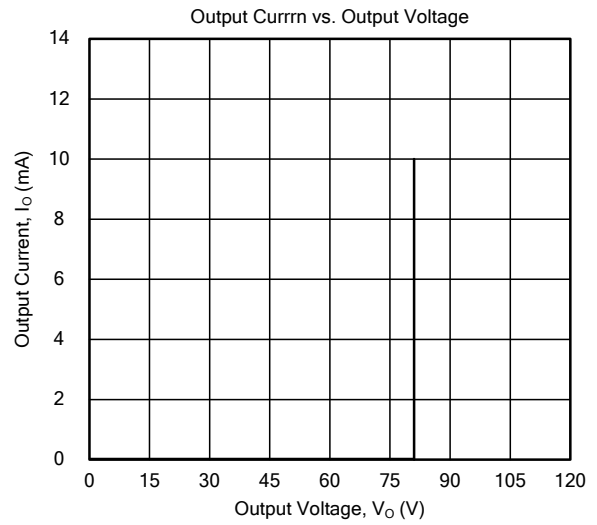
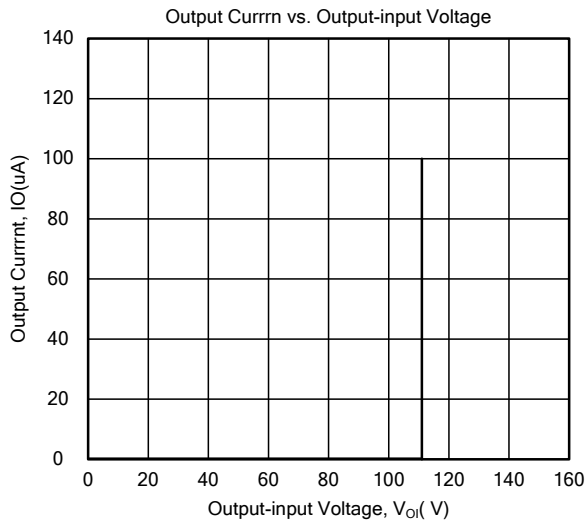
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

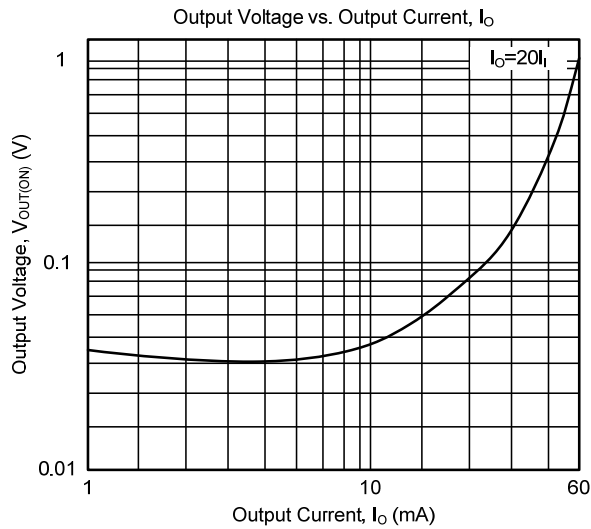
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	V _{I(OFF)}	V _{CC} =5V, I _{OUT} =100μA			0.5	V
	V _{I(ON)}	V _{OUT} =0.3V, I _{OUT} =1mA	3			
Output Voltage	V _{OUT(ON)}	I _{OUT} =5mA, I _{IN} =0.25mA		0.1	0.3	V
Input Current	I _{IN}	V _{IN} =5V			0.15	mA
Output Current	I _{O(OFF)}	V _{CC} =50V, V _{IN} =0V			0.5	μA
DC Current Gain	h _{FE}	V _{OUT} =5V, I _{OUT} =5mA	82			
Input Resistance	R ₁		70	100	130	kΩ
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

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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