



# DTC113T

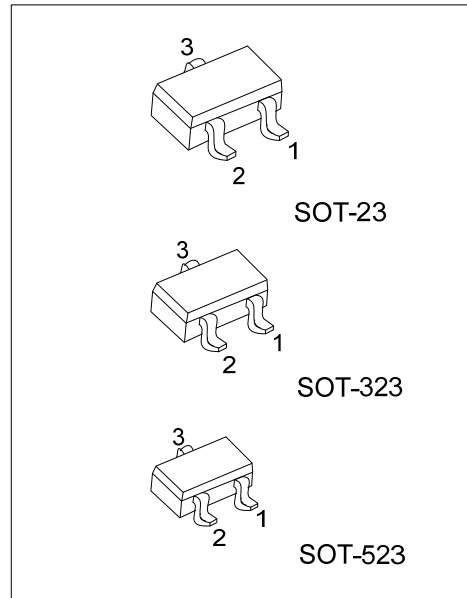
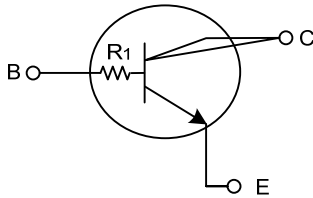
## NPN SILICON TRANSISTOR

### 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

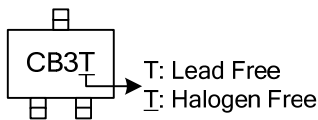


#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
DTC113TL-AE3-R	DTC113TG-AE3-R	SOT-23	E	B	C	Tape Reel
DTC113TL-AL3-R	DTC113TG-AL3-R	SOT-323	E	B	C	Tape Reel
DTC113TL-AN3-R	DTC113TG-AN3-R	SOT-523	E	B	C	Tape Reel

<p>DTC113TL-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, L: Lead Free</p>
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#### MARKING



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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector to Base Voltage		$V_{CBO}$	50	V
Emitter to Base Voltage		$V_{EBO}$	6	V
Collector to Emitter voltage		$V_{CEO}$	50	V
Collector Current		$I_C$	100	mA
Peak Collector Current		$I_{CM}$	200	mA
Collector Power Dissipation	SOT-23/SOT-323	$P_C$	200	mW
	SOT-523		150	
Junction Temperature		$T_J$	+150	$^{\circ}\text{C}$
Storage Temperature		$T_{STG}$	-55~+150	$^{\circ}\text{C}$

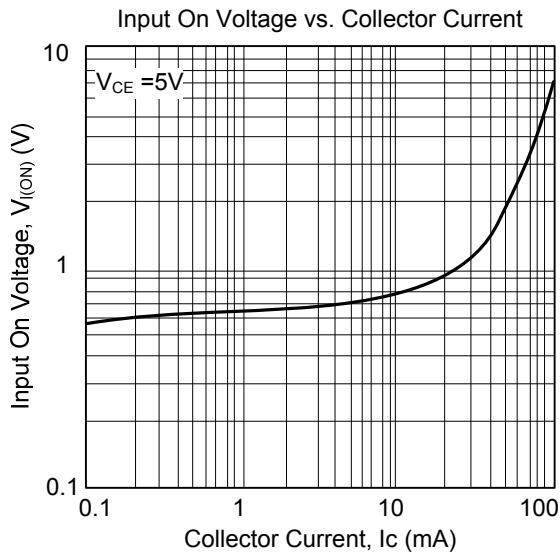
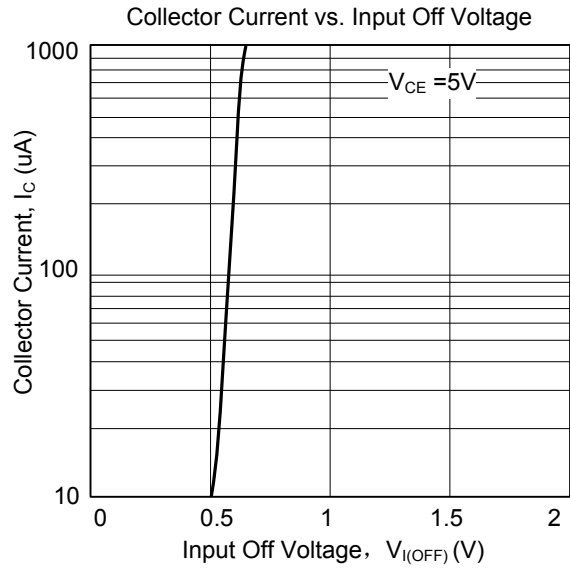
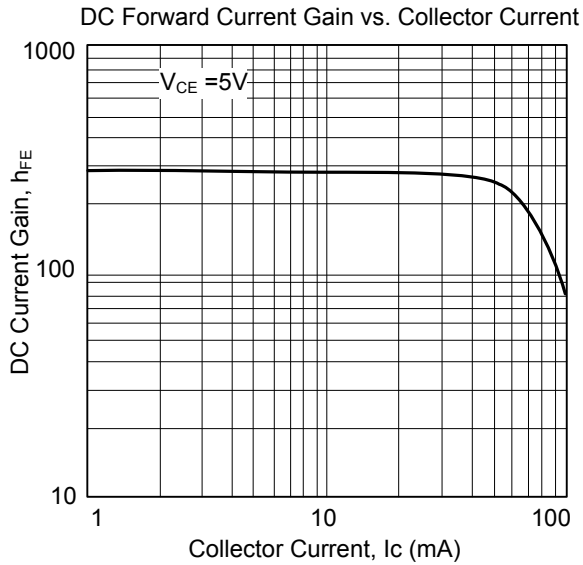
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

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

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=100\mu\text{A}$ , $R_{BE}=\infty$	50			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=50\text{V}$ , $I_E=0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=5\text{V}$ , $I_C=1\text{mA}$	100			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=10\text{mA}$ , $I_B=0.5\text{mA}$			0.3	V
Input Resistance	$R_1$		0.7	1.0	1.3	k $\Omega$
Current Gain Bandwidth Product	$f_T$	$V_{CE}=6\text{V}$ , $I_E=-10\text{mA}$		200		MHz

### TYPICAL CHARACTERISTICS



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.