



## DTC113T

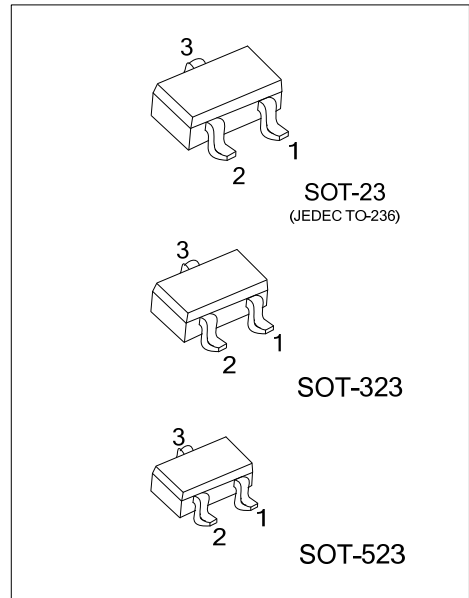
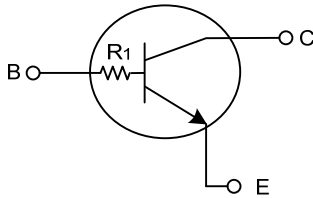
## NPN SILICON TRANSISTOR

### 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



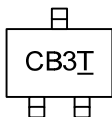
#### ORDERING INFORMATION

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

Note: Pin Assignment: E: Emitter B: Base C: Collector

<p>DTC113TG-AE3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</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 RATINGS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector to Base Voltage		$V_{CB0}$	50	V
Emitter to Base Voltage		$V_{EB0}$	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	$^\circ\text{C}$

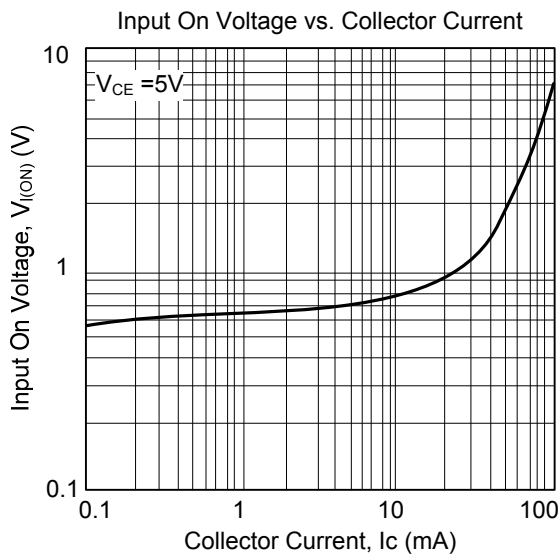
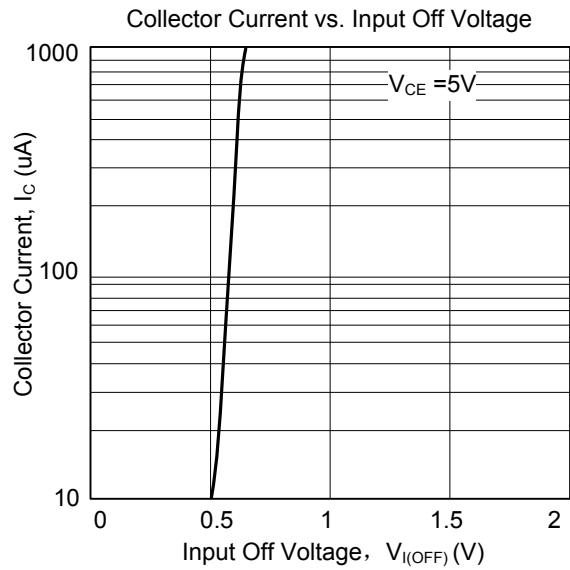
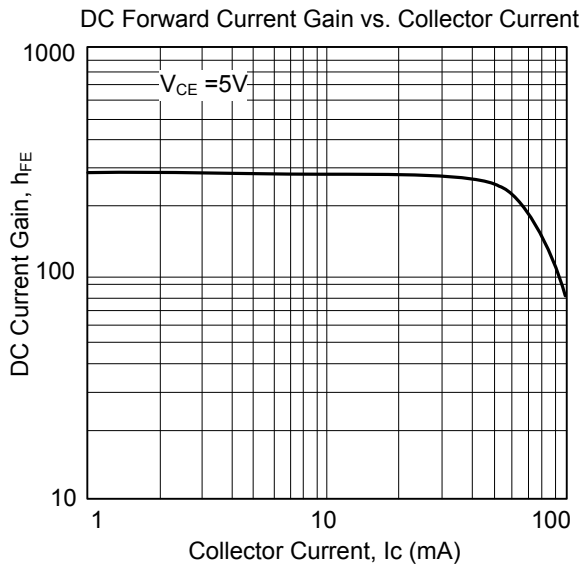
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

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

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

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	$R_i$		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



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