



# DTC144T

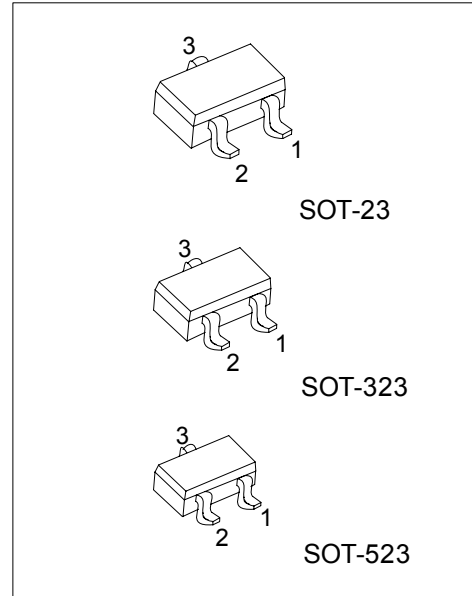
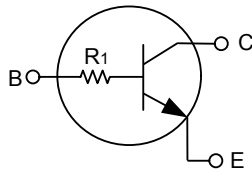
## NPN SILICON TRANSISTOR

### 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



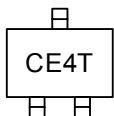
\*Pb-free plating product number:DTC144TL

#### ■ ORDERING INFORMATION

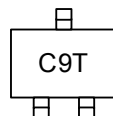
Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
DTC144T-AE3-R	DTC144TL-AE3-R	SOT-23	E	B	C	Tape Reel
DTC144T-AL3-R	DTC144TL-AL3-R	SOT-323	E	B	C	Tape Reel
DTC144T-AN3-R	DTC144TL-AN3-R	SOT-523	E	B	C	Tape Reel

<p>DTC144TL-AE3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Plating</p>	<p>(1) R: Tape Reel</p> <p>(2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523</p> <p>(3) L: Lead Free Plating, Blank: Pb/Sn</p>
---	--

#### ■ MARKING



For SOT-23/SOT-323 Package



For SOT-523 Package

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25 )

PARAMETER		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	50	V
Collector-Emitter Voltage		$V_{CEO}$	50	V
Emitter-Base Voltage		$V_{EBO}$	5	V
Collector Current		$I_C$	100	mA
Collector Power Dissipation	SOT-523	$P_C$	150	mW
	SOT-23/SOT-323		200	mW
Junction Temperature		$T_J$	150	
Storage Temperature		$T_{STG}$	-55~+150	

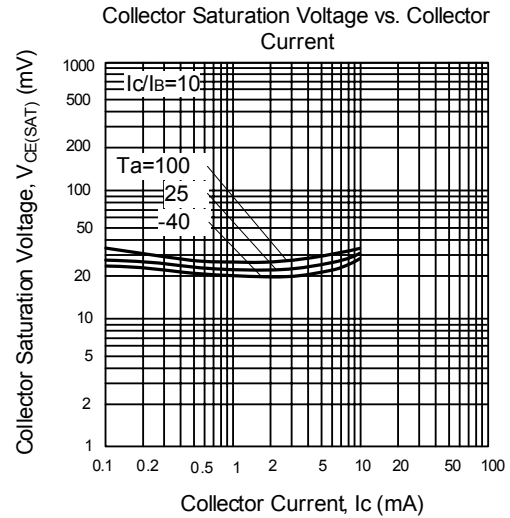
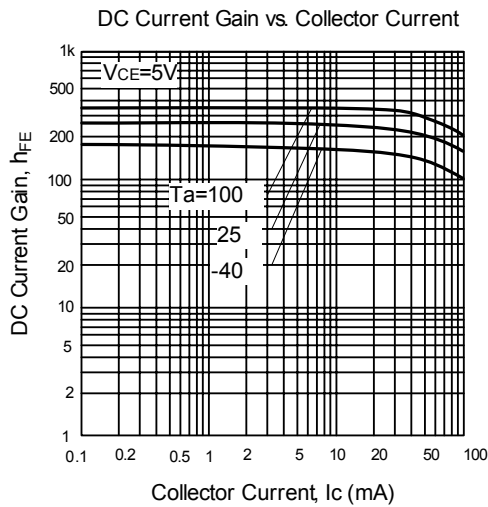
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Ta= 25 , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=50\mu A$	50			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1mA$	50			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=50\mu A$	5			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=50V$			0.5	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4V$			0.5	$\mu A$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=5mA, I_B=0.5mA$			0.3	V
DC Current Gain	$h_{FE}$	$V_{CE}=5V, I_C=1mA$	100	250	600	
Input Resistance	R1		32.9	47	61.1	k $\Omega$
Transition Frequency	$f_T$	$V_{CE}=10V, I_E=-5mA, f=100MHz^*$		250		MHz

\* Transition frequency of the device

## 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.