



# DTC144T

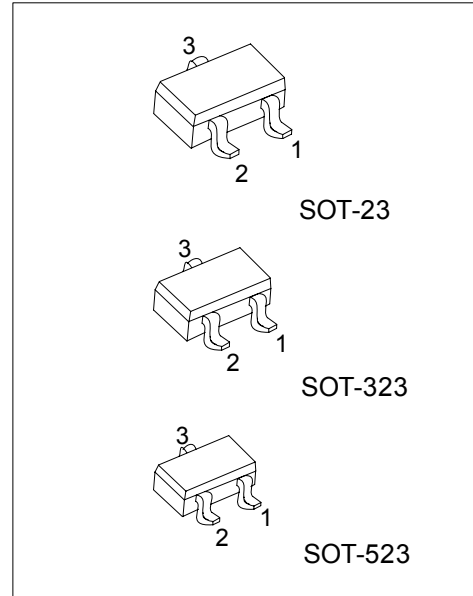
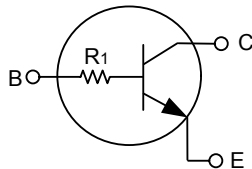
## NPN SILICON TRANSISTOR

### 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



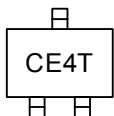
\*Pb-free plating product number:DTC144TL

#### ■ ORDERING INFORMATION

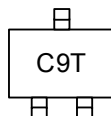
Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
DTC144T-AE3-R	DTC144TL-AE3-R	SOT-23	E	B	C	Tape Reel
DTC144T-AL3-R	DTC144TL-AL3-R	SOT-323	E	B	C	Tape Reel
DTC144T-AN3-R	DTC144TL-AN3-R	SOT-523	E	B	C	Tape Reel

<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>
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#### ■ 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	

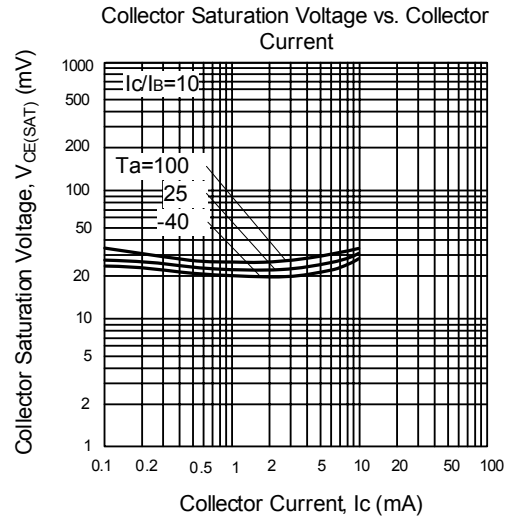
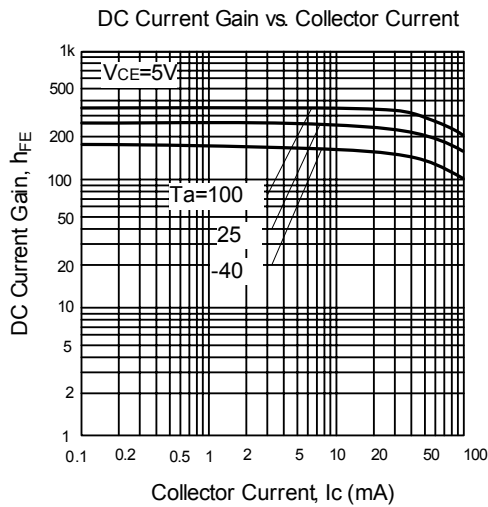
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ 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



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