



## DTC143T

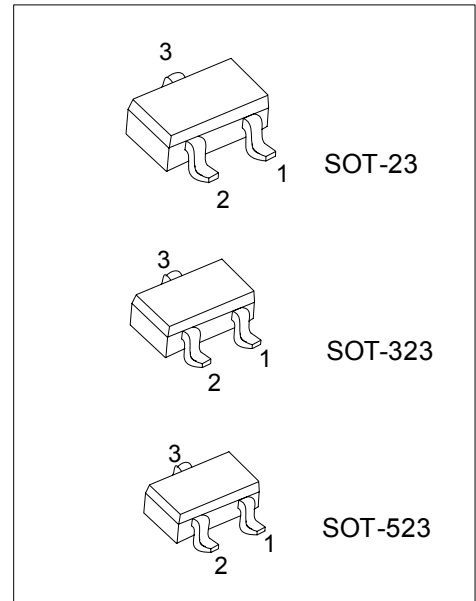
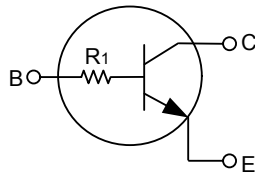
## NPN SILICON TRANSISTOR

### 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



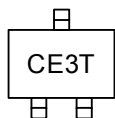
\* Pb-free plating product number: DTC143TL

#### ORDERING INFORMATION

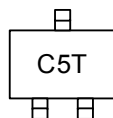
Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
DTC143T-AE3-R	DTC143TL-AE3-R	SOT-23	E	B	C	Tape Reel
DTC143T-AL3-R	DTC143TL-AL3-R	SOT-323	E	B	C	Tape Reel
DTC143T-AN3-R	DTC143TL-AN3-R	SOT-523	E	B	C	Tape Reel

<p>DTC143TL-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°C , unless otherwise specified )

PARAMETER	SYMBOL	RATINGS	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	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.

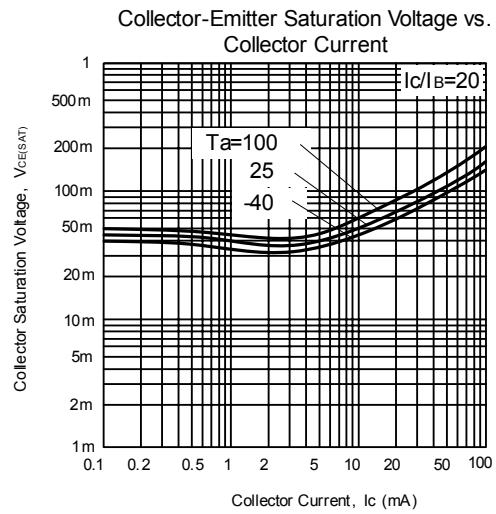
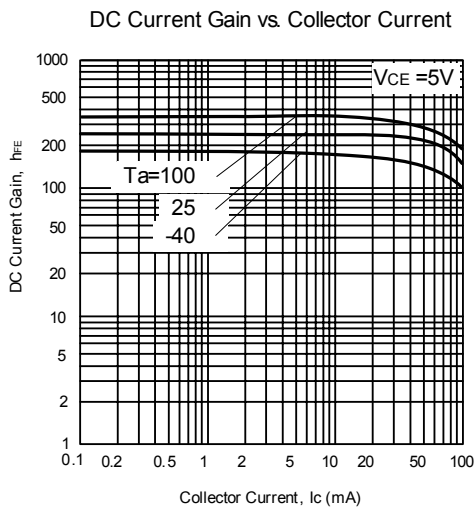
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Ta=25°C, 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 Cut-off Current	$I_{CBO}$	$V_{CB} = 50V$			0.5	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 4V$			0.5	$\mu A$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 5mA, I_B = 0.25mA$			0.3	V
DC Current Gain	$h_{FE}$	$V_{CE} = 5V, I_C = 1mA$	100	250	600	
Input Resistance	$R_i$		3.29	4.7	6.11	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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