



DTC144T

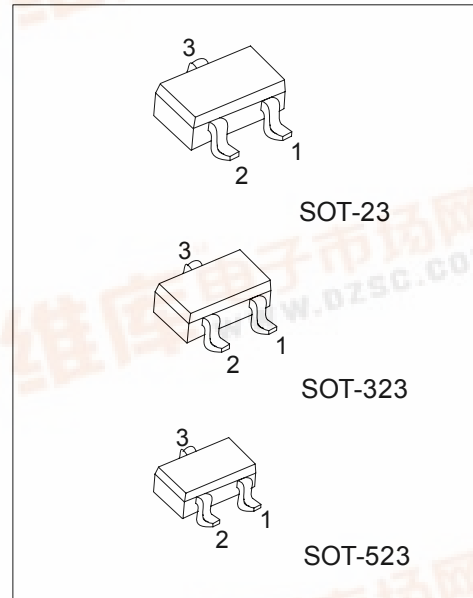
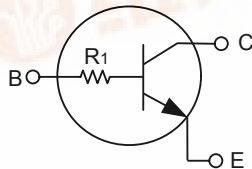
NPN SILICON TRANSISTOR

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



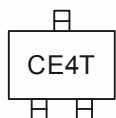
*Pb-free plating product number:DTC144TL

ORDERING INFORMATION

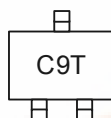
Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
DTC144T-AE3-R	DTC144TL-AE3-R	SOT-23	E	B	C	Tape Reel
DTC144T-AL3-R	DTC144TL-AL3-R	SOT-323	E	B	C	Tape Reel
DTC144T-AN3-R	DTC144TL-AN3-R	SOT-523	E	B	C	Tape Reel

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

MARKING



For SOT-23/SOT-323 Package



For SOT-523 Package



■ ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

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	°C
Storage Temperature		T_{STG}	-55~+150	°C

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

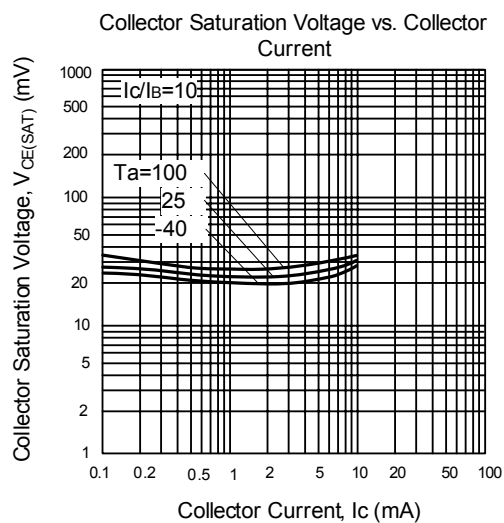
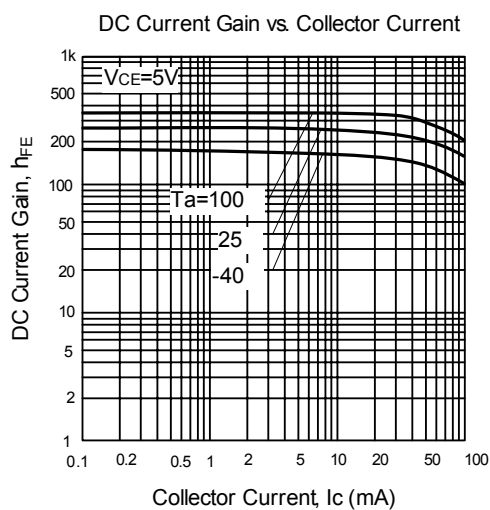
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (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 Cutoff Current	I_{CBO}	$V_{CB}=50V$			0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4V$			0.5	μA
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	R_1		32.9	47	61.1	k Ω
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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