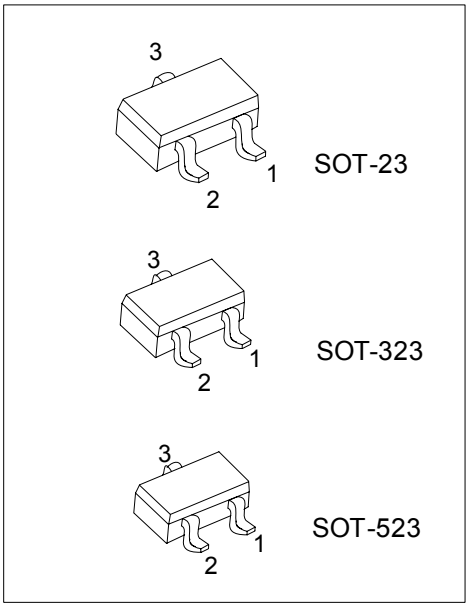
DTC143T

NPN SILICON TRANSISTOR

NPN DIGITAL TRANSISTOR (BUILT- IN BIAS RESISTORS)

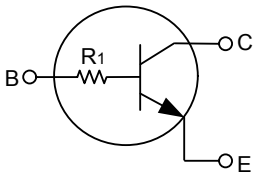


* Pb-free plating product number: DTC143TL

■ 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

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

DTC143TL-AE3-R

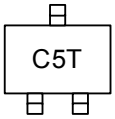
(1)Packing Type
(2)Package Type
(3)Lead Plating

(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

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■ 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	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.

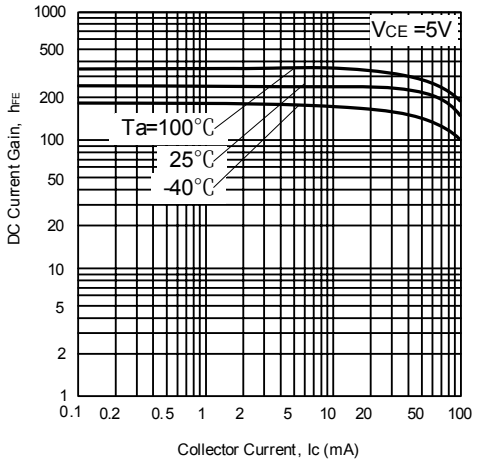
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C =50μA	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C =1mA	50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E =50μA	5			V
Collector Cut-off Current	I_{CBO}	V_{CB}=50V			0.5	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} =4V			0.5	μA
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_1		3.29	4.7	6.11	kΩ
Transition Frequency	f_T	V_{CE} =10V, I_E =5mA, f=100MHz *		250		MHz

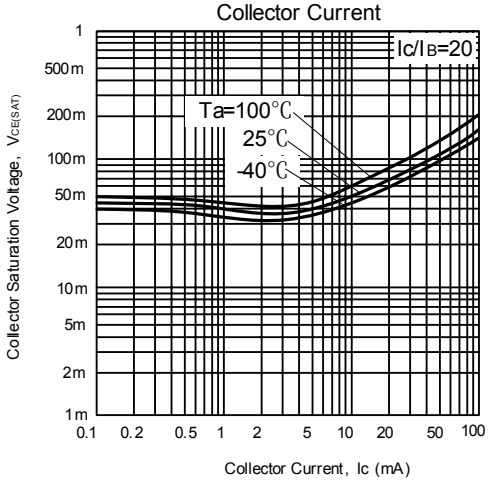
* Transition frequency of the device.

■ TYPICAL CHARACTERISTICS

DC Current Gain vs. Collector Current



Collector-Emitter Saturation Voltage vs. Collector Current



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