

DTC144T

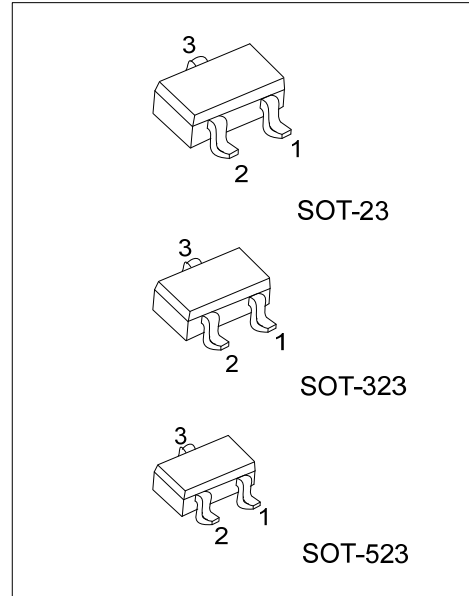
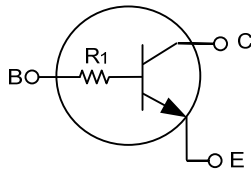
NPN SILICON TRANSISTOR

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.

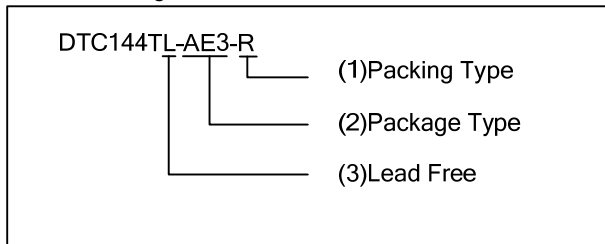
■ EQUIVALENT CIRCUIT



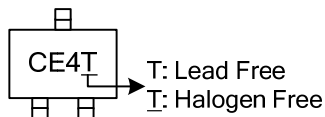
■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
DTC144TL-AE3-R	DTC144TG-AE3-R	SOT-23	E	B	C	Tape Reel
DTC144TL-AL3-R	DTC144TG-AL3-R	SOT-323	E	B	C	Tape Reel
DTC144TL-AN3-R	DTC144TG-AN3-R	SOT-523	E	B	C	Tape Reel

Note: Pin Assignment: E: Emitter, B: Base, C: Collector

<p>DTC144TL-AE3-R</p> 	<p>(1) R: Tape Reel</p> <p>(2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523</p> <p>(3) G: Halogen Free, L: Lead Free</p>
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■ MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

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	150	mW
	SOT-23/SOT-323	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^\circ\text{C}$

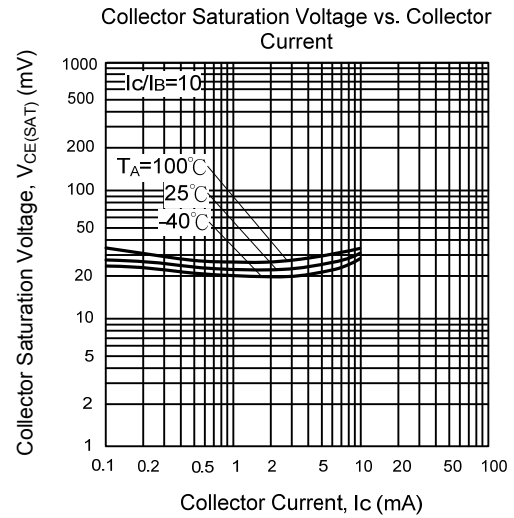
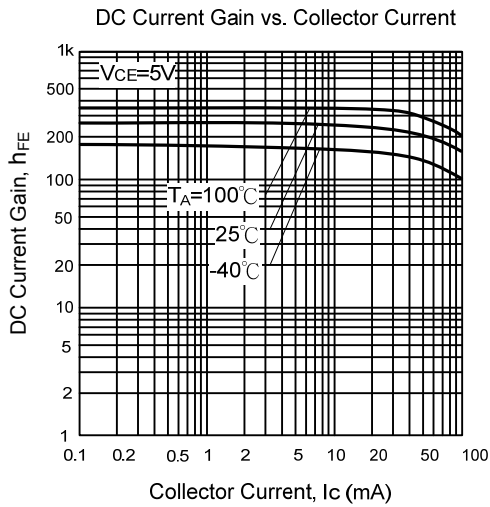
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 50\mu\text{A}$	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 1\text{mA}$	50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 50\mu\text{A}$	5			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 50\text{V}$			0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4\text{V}$			0.5	μA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 5\text{mA}, I_B = 0.5\text{mA}$			0.3	V
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}, I_C = 1\text{mA}$	100	250	600	
Input Resistance	R_1		32.9	47	61.1	$\text{K}\Omega$
Transition Frequency	f_T	$V_{CE} = 10\text{V}, I_E = -5\text{mA}, f = 100\text{MHz}$ (Note)		250		MHz

Note: Transition frequency of the device

■ TYPICAL CHARACTERISTICS



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