

# UTC UNISONIC TECHNOLOGIES CO., LTD

# DTC114T

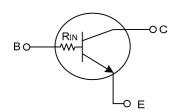
# NPN SILICON TRANSISTOR

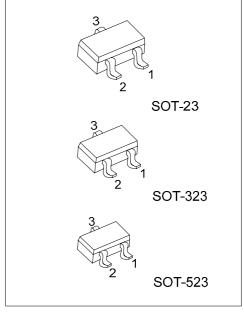
# NPN DIGITAL TRANSISTOR (BUILT- IN BIAS RESISTORS)

#### **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**

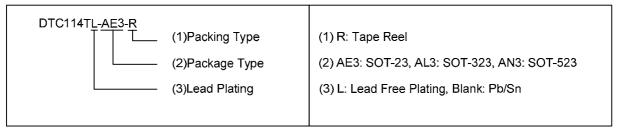




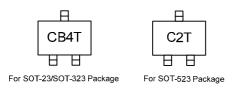
\*Pb-free plating product number:DTC114TL

#### **ORDERING INFORMATION**

Ordering Number		Daakaga	Pin Assignment			Dooking	
Normal	Lead Free Plating	Package	1	2	3	Packing	
DTC114T-AE3-R	DTC114TL-AE3-R	SOT-23	Е	В	С	Tape Reel	
DTC114T-AL3-R	DTC114TL-AL3-R	SOT-323	Е	В	С	Tape Reel	
DTC114T-AN3-R	DTC114TL-AN3-R	SOT-523	Е	В	С	Tape Reel	



### **MARKING**



www.unisonic.com.tw 1 of 3 QW-R206-054,B

## ■ ABSOLUTE MAXIMUM RATINGS (Ta=25 )

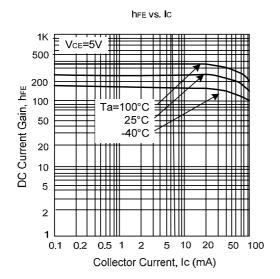
PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		$V_{CBO}$	50	V
Collector-Emitter Voltage		V <sub>CEO</sub>	50	V
Emitter-Base Voltage		V <sub>EBO</sub> 5		V
Collector Current		I <sub>C</sub>	100	mA
Callantan Davisa Dianimetian	SOT-23/SOT-323	Б	200	mW
Collector Power Dissipation	SOT-523	P <sub>C</sub>	150	mW
Junction Temperature		TJ	150	
Storage Temperature		T <sub>STG</sub>	-55 ~ +150	

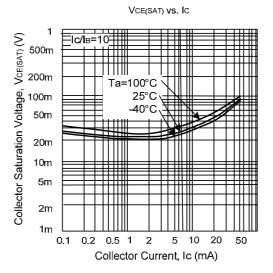
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_CBO$	I <sub>C</sub> =50μA	50			V
Collector-Emitter Breakdown Voltage	$BV_CEO$	I <sub>C</sub> =1mA	50			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	I <sub>E</sub> =50μA	5			V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I <sub>C</sub> =10mA, I <sub>B</sub> =1mA			0.3	V
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> =50V			0.5	μA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V			0.5	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =1mA	100	300	600	
Input Resistance	Rin		7	10	13	kΩ
Current Gain Bandwidth Product	f⊤	$V_{CE}$ =10V, $I_{E}$ =-5mA, f=100MHz		250		MHz

#### ■ TYPICAL CHARACTERISTICS





UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.