



DTC143Z

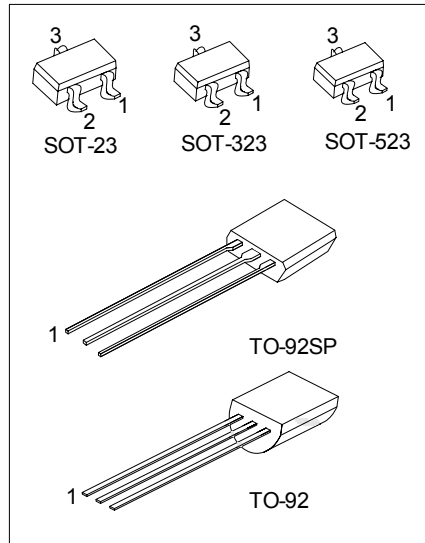
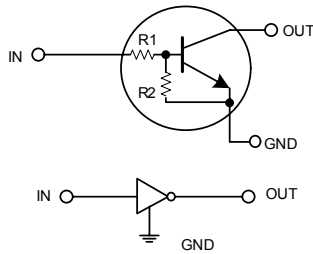
NPN SILICON TRANSISTOR

NPN DIGITAL TRANSISTOR (BUILT-IN 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



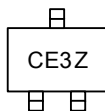
*Pb-free plating product number: DTC143ZL

ORDERING INFORMATION

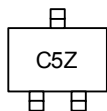
Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
DTC143Z-AE3-R	DTC143ZL-AE3-R	SOT-23	G	I	O	Tape Reel
DTC143Z-AL3-R	DTC143ZL-AL3-R	SOT-323	G	I	O	Tape Reel
DTC143Z-AN3-R	DTC143ZL-AN3-R	SOT-523	G	I	O	Tape Reel
DTC143Z-T92-B	DTC143ZL-T92-B	TO-92	G	O	I	Tape Box
DTC143Z-T92-K	DTC143ZL-T92-K	TO-92	G	O	I	Bulk
DTC143Z-T92-R	DTC143ZL-T92-R	TO-92	G	O	I	Tape Reel
DTC143Z-T9S-K	DTC143ZL-T9S-K	TO-92SP	G	O	I	Bulk

<p>DTC143ZL-AE3-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Plating</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel</p> <p>(2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523, T92: TO-92, T9S: TO-92SP</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

DTC143Z

NPN SILICON TRANSISTOR

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V _{CC}	50	V
Input Voltage		V _{IN}	-5 ~ +30	V
Output Current		I _{OUT}	100	mA
		I _{C (MAX)}	100	
Power Dissipation		P _D	150	mW
			200	mW
			300	mW
Junction Temperature		T _J	+150	
Storage Temperature		T _{STG}	-55 ~ +150	

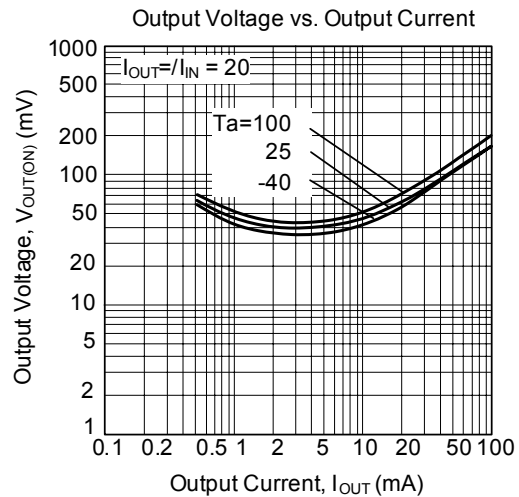
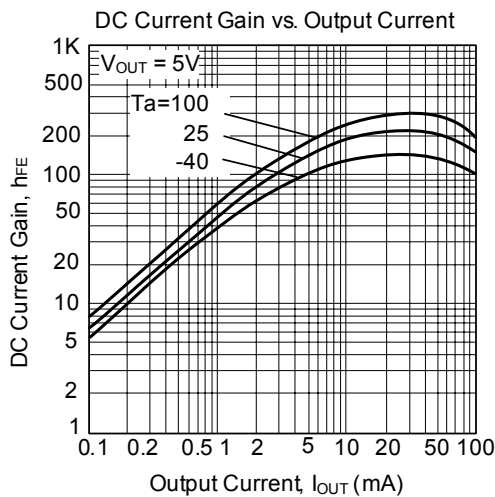
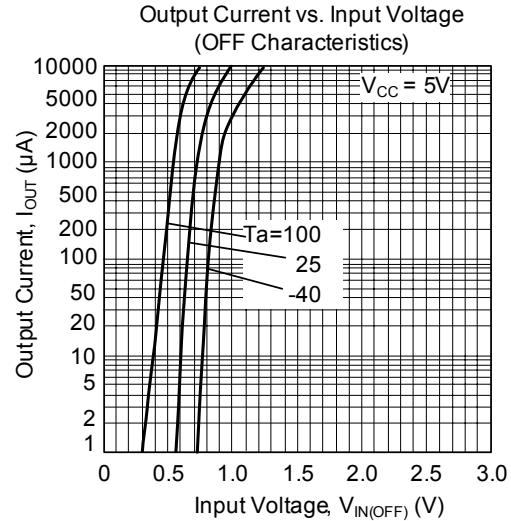
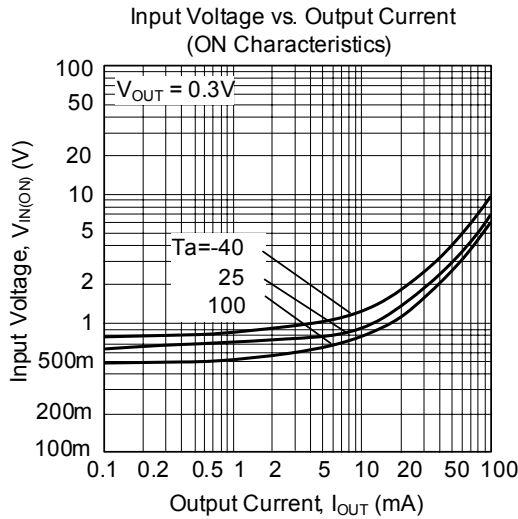
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	V _{IN (OFF)}	V _{CC} =5V, I _{OUT} =100μA			0.5	V
	V _{IN (ON)}	V _{OUT} =0.3V, I _{OUT} =5mA	1.3			
Output Voltage	V _{OUT (ON)}	I _{OUT} /I _{IN} =5mA/0.25mA		0.1	0.3	V
Input Current	I _{IN}	V _{IN} =5V			1.8	mA
Output Current	I _{O (OFF)}	V _{CC} =50V, V _{IN} =0V			0.5	μA
DC Current Gain	h _{FE}	V _{OUT} =5V, I _{OUT} =10mA	80			
Input Resistance	R ₁		3.29	4.7	6.11	KΩ
Resistance Ratio	R ₂ /R ₁		8	10	12	
Transition Frequency	f _T	V _{CE} =10V, I _E =-5mA, f=100MHz *		250		MHz

* Transition frequency of the device

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.