



DTC143Z

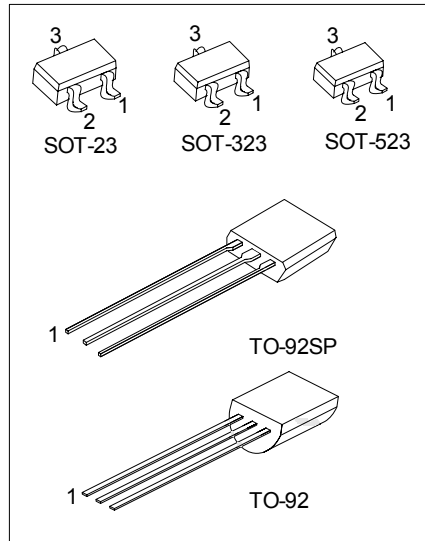
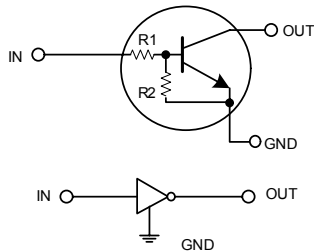
NPN SILICON TRANSISTOR

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



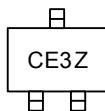
*Pb-free plating product number: DTC143ZL

ORDERING INFORMATION

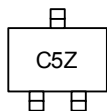
Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
DTC143Z-AE3-R	DTC143ZL-AE3-R	SOT-23	G	I	O	Tape Reel
DTC143Z-AL3-R	DTC143ZL-AL3-R	SOT-323	G	I	O	Tape Reel
DTC143Z-AN3-R	DTC143ZL-AN3-R	SOT-523	G	I	O	Tape Reel
DTC143Z-T92-B	DTC143ZL-T92-B	TO-92	G	O	I	Tape Box
DTC143Z-T92-K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

■ 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	SOT-523	P _D	150	mW
	SOT-23/SOT-323		200	mW
	TO-92/TO-92SP		300	mW
Junction Temperature		T _J	+150	
Storage Temperature		T _{STG}	-55 ~ +150	

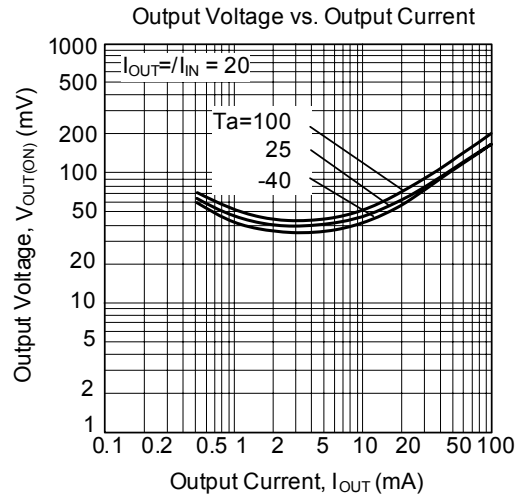
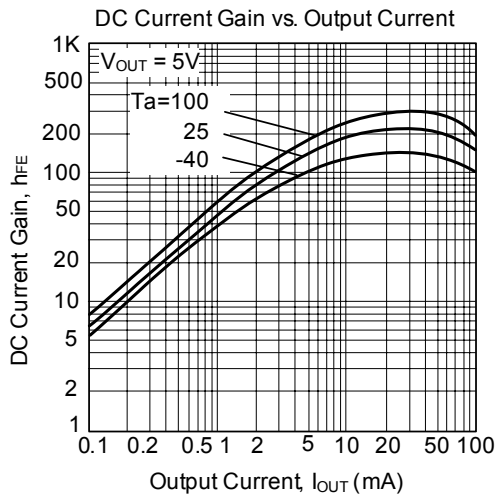
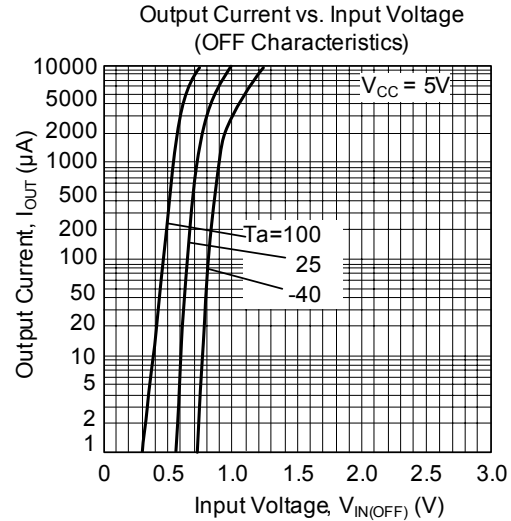
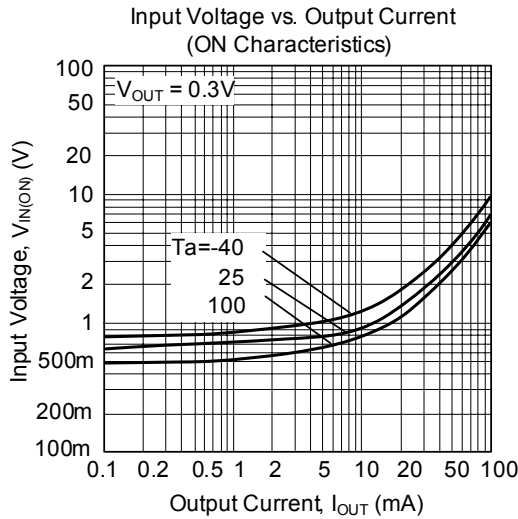
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ 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



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