Elektronische Bauelemente

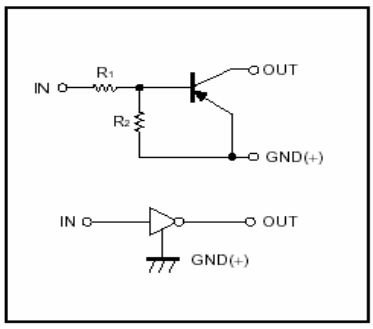
DTA143ZE/DTA143ZUA/DTA143ZCA/ DTA143ZSA

PNP Digital Transistors (Built-in Resistors)

FEATURES

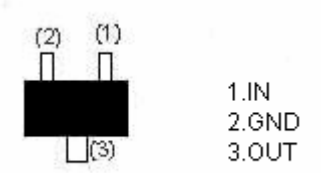
* Built-in bias resistors enable the configuration of an inverter circuit without connecting input resistors (see equivalent circuit).
* Only the on/off confitions need to be set for operation, making device design easy.
* The bias resistors consis of thin-film resistors with compete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.

●Equivalent circuit



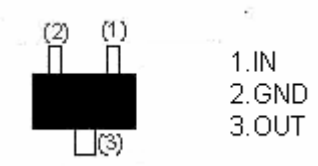
PIN CONNENCTIONS AND MARKING

DTA143ZE



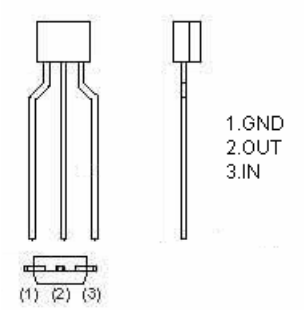
SOT-523 Abbreviated symbol: E13

DTA143ZUA



SOT-323 Abbreviated symbol: 113

DTA143ZSA



TO-92S

DTA143ZCA

SOT-23 Abbreviated symbol: E13

Elektronische Bauelemente

DTA143ZE/DTA143ZUA/DTA143ZCA/ DTA143ZSA

PNP Digital Transistors (Built-in Resistors)

Absolute maximum ratings(Ta=25℃)

Parameter	Symbol	Limits (DTA143Z□)				Unit
		E	UA	CA	SA	
Supply voltage	V_{CC}	-50				V
Input voltage	V_{IN}	-30~5				V
Output current	I_O	-100				mA
	$I_{C(MAX)}$	-100				
Power dissipation	Pd	150	200		300	mW
Junction temperature	T_j	150				℃
Storage temperature	Tstg	-55~150				℃

Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$			-0.5	V	V_{CC}=-5V ,I_O=-100μA
	$V_{I(on)}$	-1.3				V_O=-0.3V ,I_O=-5 mA
Output voltage	$V_{O(on)}$			-0.3	V	I_O/I_I=-5mA/-0.25mA
Input current	I_I			-1.8	mA	V_I=-5V
Output current	$I_{O(off)}$			-0.5	μA	V_{CC}=-50V ,V_I=0
DC current gain	G_I	80				V_O=-5V ,I_O=-10mA
Input resistance	R_1	3.29	4.7	6.11	KΩ	
Resistance ratio	R_2/R_1	8	10	12		
Transition frequency	f_T		250		MHz	V_O=-10V ,I_O=-5mA,f=100MHz

Typical Characteristics

●Electrical characteristic curves

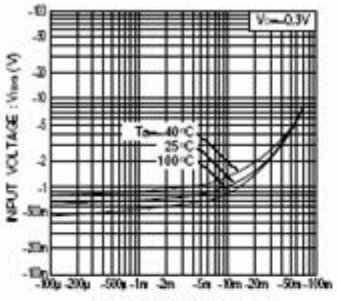


Fig.1 Input voltage vs. output current (ON characteristics)

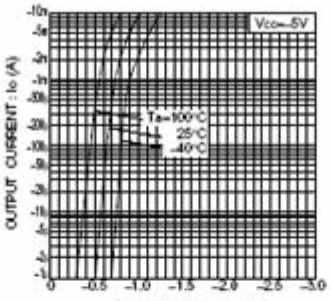


Fig.2 Output current vs. input voltage (OFF characteristics)

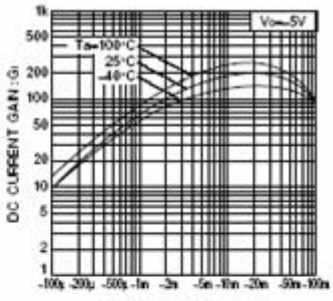


Fig.3 DC current gain vs. output current

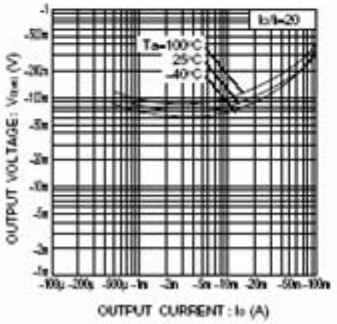


Fig.4 Output voltage vs. output current