Elektronische Bauelemente

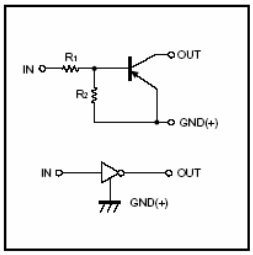
DTA143XUA/DTA143XKA/DTA143XSA
DTA143XE/DTA143XCA

PNP Digital Transistors (Built-in Resistors)

FEATURES

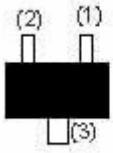
* Built-in bias resistors enable the configuration of an inverter circuit without connecting input resistors (see equivalent circuit).
* Only the on/off confitions need to be set for operation, making device design easy.
* The bias resistors consis of thin-film resistors with compete isolation to allow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

●Equivalent circuit



External Dimensions (Units: mm)

DTA143XE

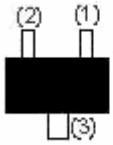


1.IN
2.GND
3.OUT

SOT-523

Abbreviated symbol: 33

DTA143XUA

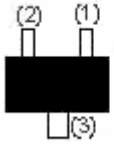


1.IN
2.GND
3.OUT

SOT-323

Abbreviated symbol: 33

DTA143XKA

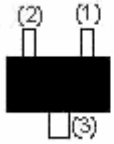


1.IN
2.GND
3.OUT

SOT-23-3L

Abbreviated symbol: 33

DTA143XCA

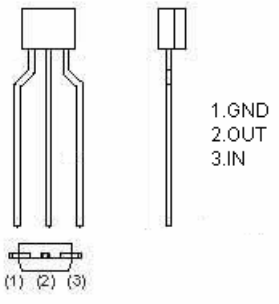


1.IN
2.GND
3.OUT

SOT-23

Abbreviated symbol: 33

DTA143XSA



1.GND
2.OUT
3.IN

TO-92S

Elektronische Bauelemente

DTA143XUA/DTA143XKA/DTA143XSA
DTA143XE/DTA143XCA

PNP Digital Transistors (Built-in Resistors)

Absolute maximum ratings (Ta=25℃)

Parameter	Symbol	Limits (DTA143X)					Unit
		E	UA	CA	KA	SA	
Supply voltage	V_{CC}	-50					V
Input voltage	V_{IN}	-20~+7					V
Output current	I_O	-100					mA
	$I_{C(MAX)}$	-100					
Power dissipation	Pd	150	200			300	mW
Junction temperature	Tj	150					℃
Storage temperature	Tstg	-55~150					℃

Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$			-0.3	V	V_{CC}=-5V, I_O=-100μA
	$V_{I(on)}$	-2.5				V_O=-0.3V, I_O=-20 mA
Output voltage	$V_{O(on)}$		-0.1	-0.3	V	I_O/I_I=-10mA/-0.5mA
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	30				V_O=-5V, I_O=-10mA
Input resistance	R_1	3.29	4.7	6.11	KΩ	
Resistance ratio	R_2/R_1	1.7	2.1	2.6		
Transition frequency	f_T		250		MHz	V_{CE}=-10V, I_E=5mA, f=100MHz

Typical Characteristics

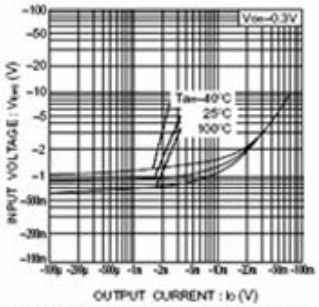


Fig.1 Input voltage vs. output current (ON characteristics)

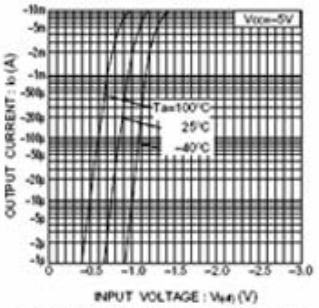


Fig.2 Output current vs. input voltage (OFF characteristics)

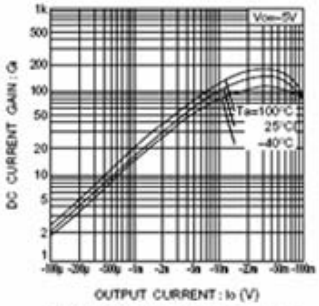


Fig.3 DC current gain vs. output current

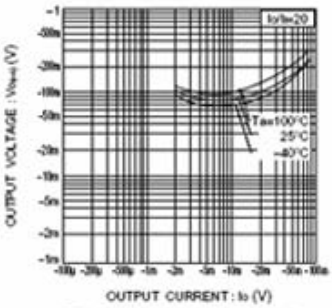


Fig.4 Output voltage vs. output current