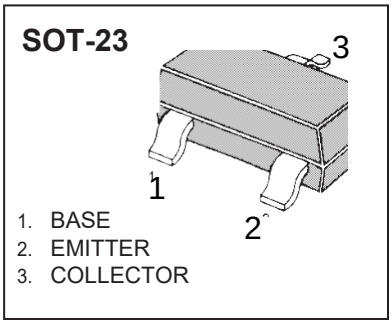
SOT-23 Plastic-Encapsulate Digital Transistors

DTA114YCA *PNP SILICON TRANSISTOR*

FEATURES

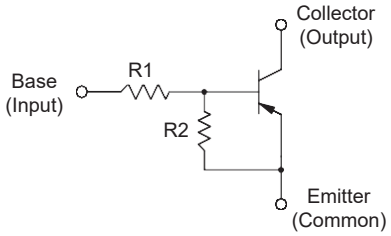
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors(see equivalent circuit)
- The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input.They also have the advantage of almost completely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



MARKING

- marking code:AB4Y

Equivalent Circuit



MAXIMUM RATINGS(Ta=25℃ unless otherwise noted)

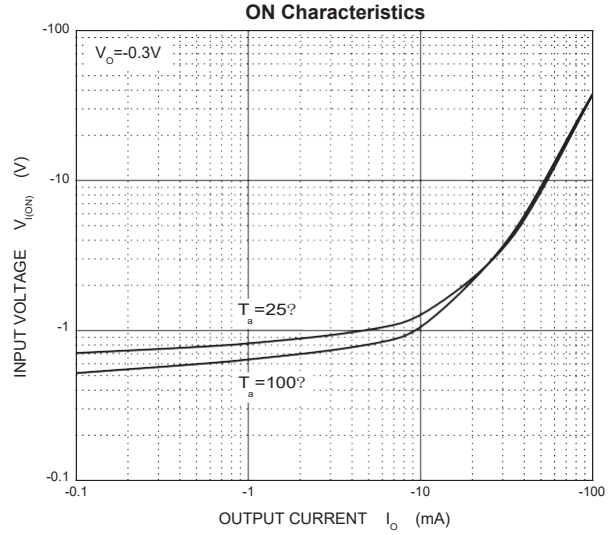
Symbol	Parameter	Limits	Unit
V_{CC}	Supply Voltage	-50	V
V_{IN}	Input Voltage	-40~+6	V
I_O	Output Current	-70	mA
I_{CM}	Peak Collector Current	-100	mA
P_D	Power Dissipation	200	mW
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

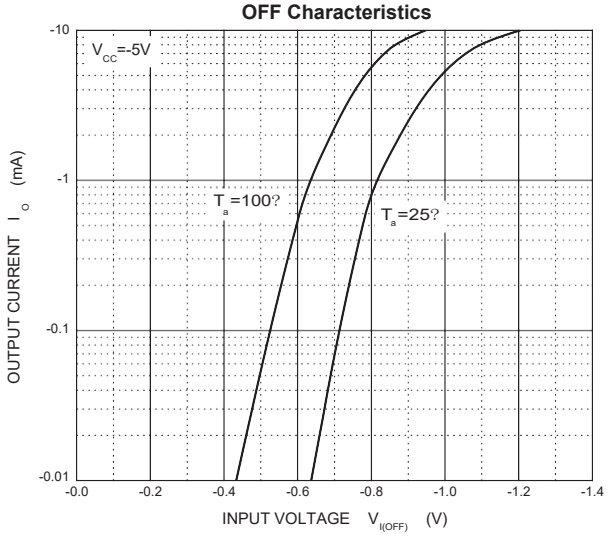
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	V_{CC}=-5V,I_O=-100μA	-0.3			V
	$V_{I(on)}$	V_O=-0.3V,I_O=-1 mA			-1.4	V
Output voltage	$V_{O(on)}$	I_O/I_I=-5mA/-0.25mA			-0.3	V
Input current	I_I	V_I=-5V			-0.88	mA
Output current	$I_{O(off)}$	V_{CC}=-50V,V_I=0			-0.5	μA
DC current gain	G_I	V_O=-5V,I_O=-5mA	68			
Input resistance	R_1		7	10	13	kΩ
Resistance ratio	R_2/R_1		3.7	4.7	5.7	
Transition frequency	f_T	V_O=-10V,I_O=-5mA,f=100MHz		250		MHz

Typical Characteristics

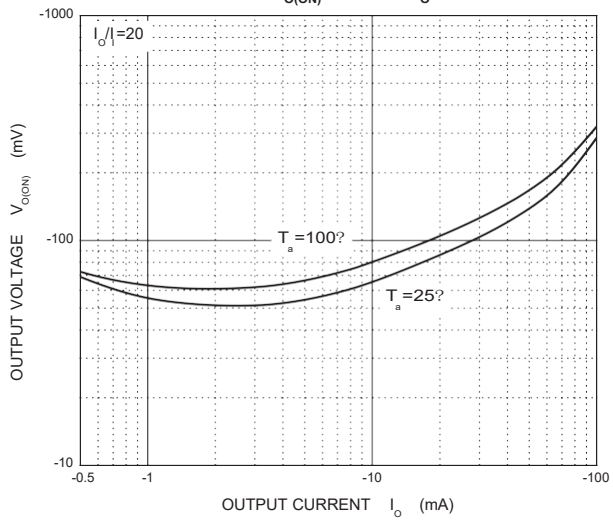
ON Characteristics



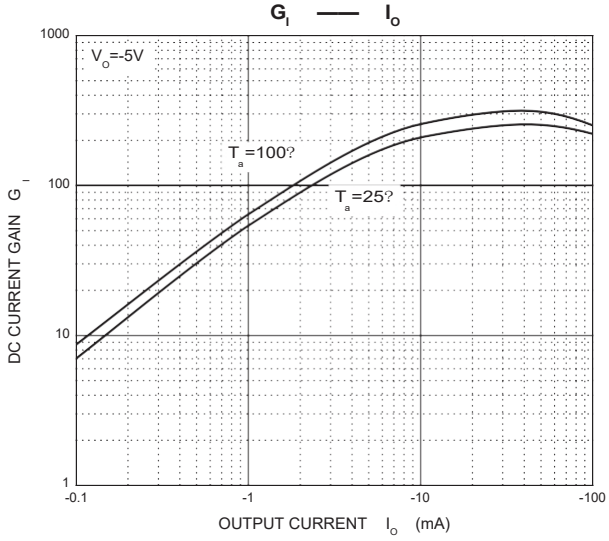
OFF Characteristics



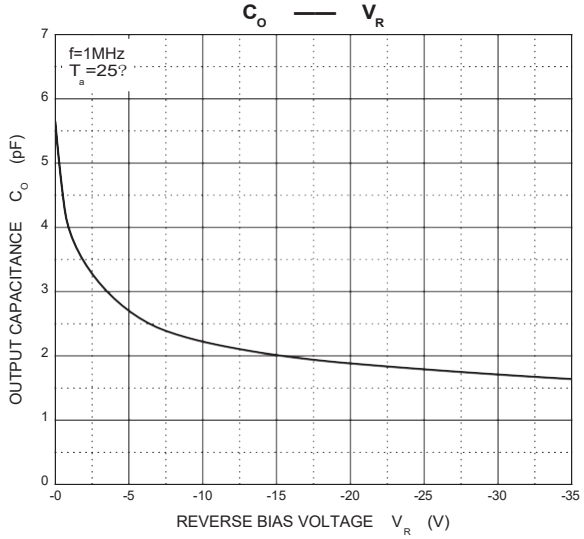
$V_{O(ON)}$ —— I_O



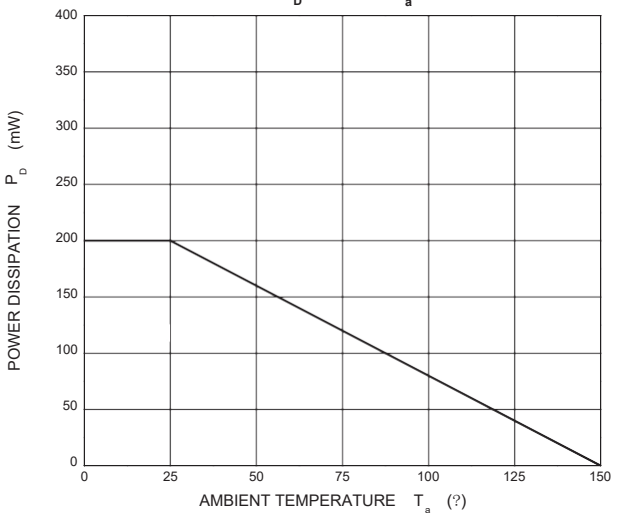
G_I —— I_O



C_O —— V_R

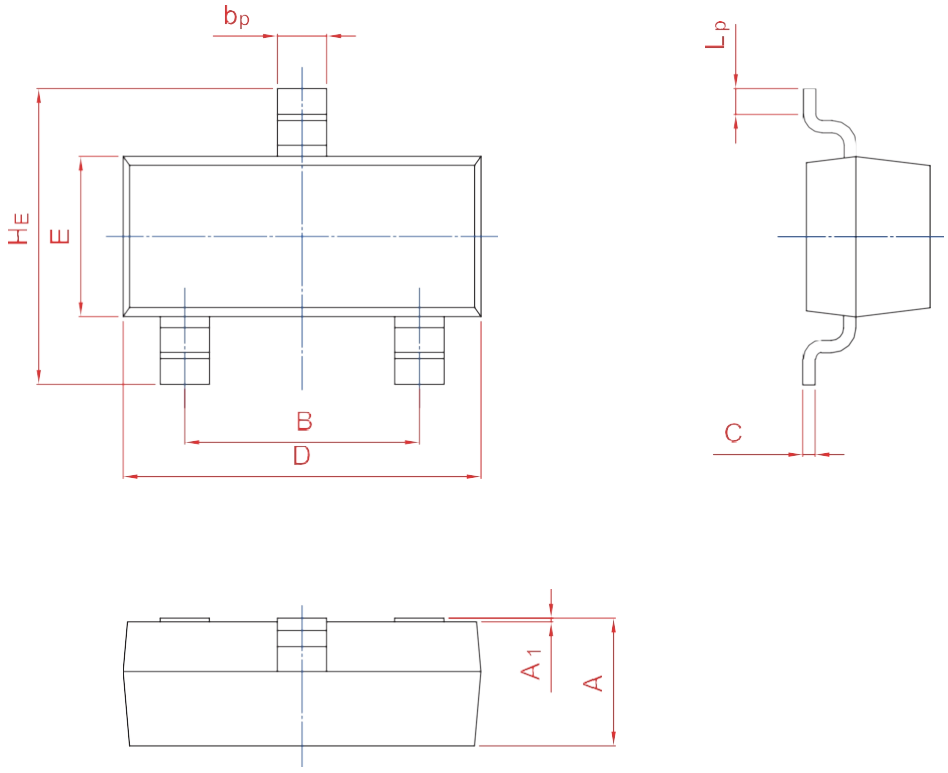


P_D —— T_a



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20