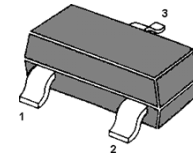


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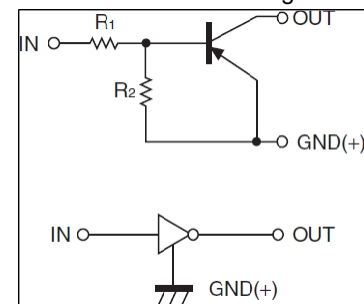
DIGITAL TRANSISTOR (PNP)

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



1.Base(IN) 2.Emitter (GND)
3.Collector(OUT)
SOT-23 Plastic Package



Equivalent Circuit

MARKING:E13

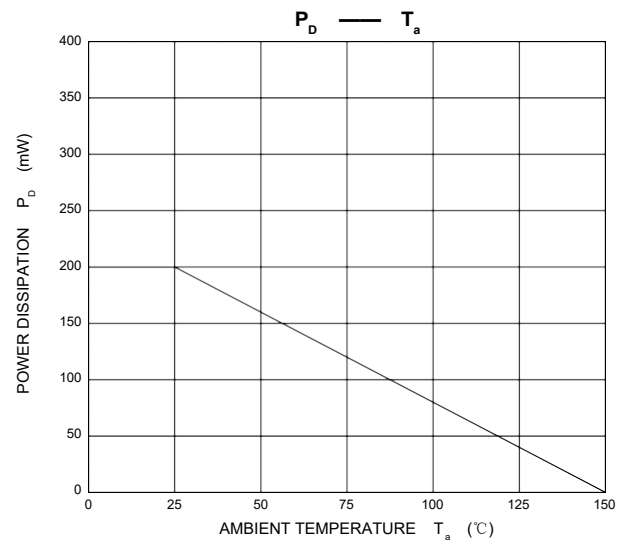
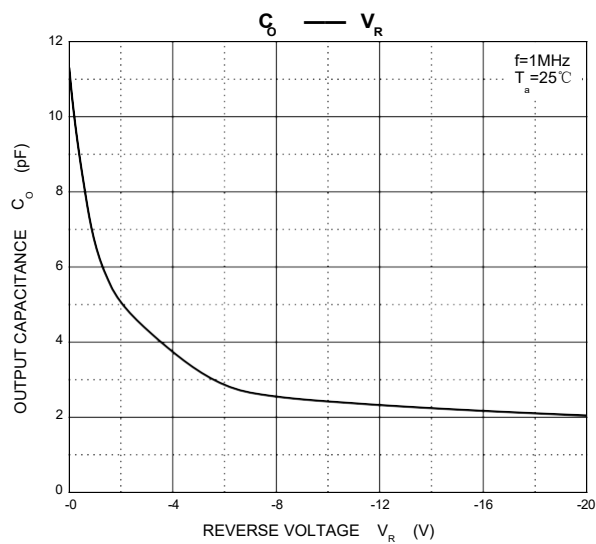
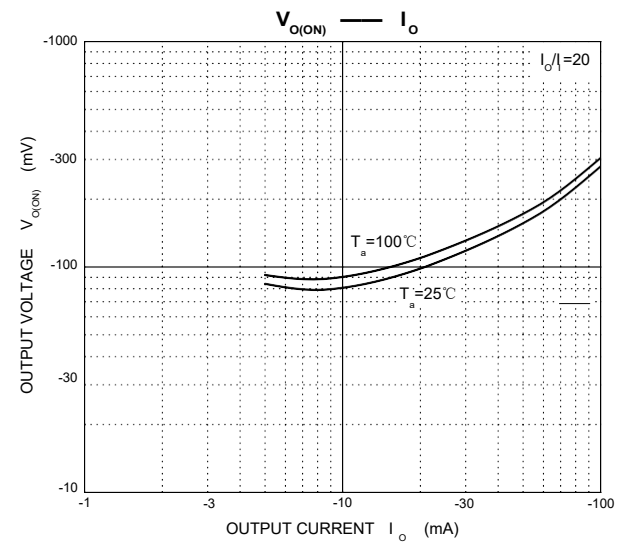
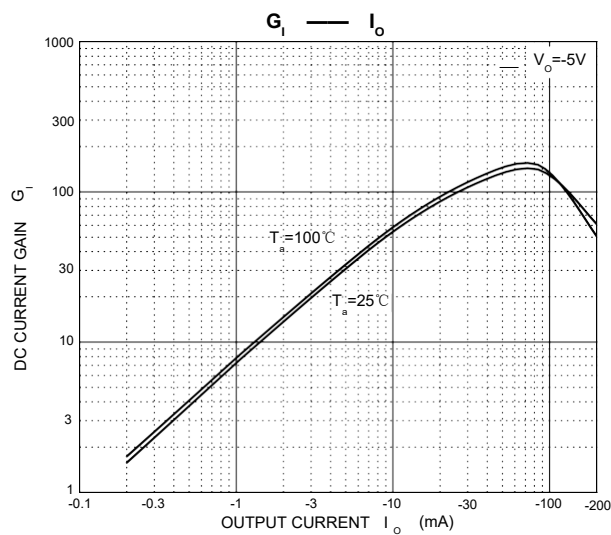
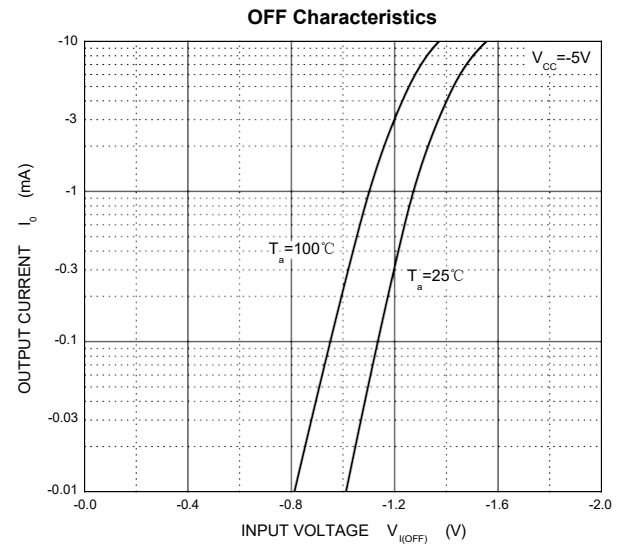
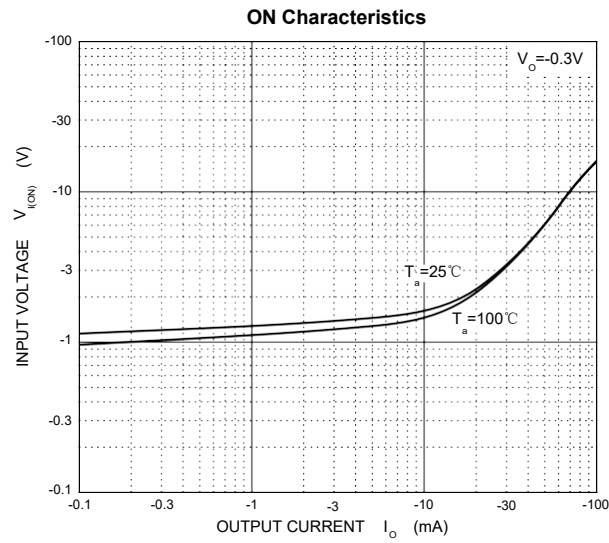
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	-5	V
Input Voltage	V_I	- 30 to + 10	V
Collector Current	I_C	-100	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	$V_{CC}=-5V, I_O=-100\mu A$	-0.5			V
	$V_{I(on)}$	$V_O=-0.3V, I_O=-20\text{ mA}$			-3	V
Output voltage	$V_{O(on)}$	$I_O/I_I=-10\text{mA}/-0.5\text{mA}$			-0.3	V
Input current	I_I	$V_I=-5V$			-1.8	mA
Output current	$I_{O(off)}$	$V_{CC}=-50V, V_I=0$			-0.5	μA
DC current gain	G_I	$V_O=-5V, I_O=-10\text{mA}$	30			
Input resistance	R_I		3.29	4.7	6.11	k Ω
Resistance ratio	R_2/R_1		0.8	1	1.2	
Transition frequency	f_T	$V_O=-10V, I_O=-5\text{mA}, f=100\text{MHz}$		250		MHz

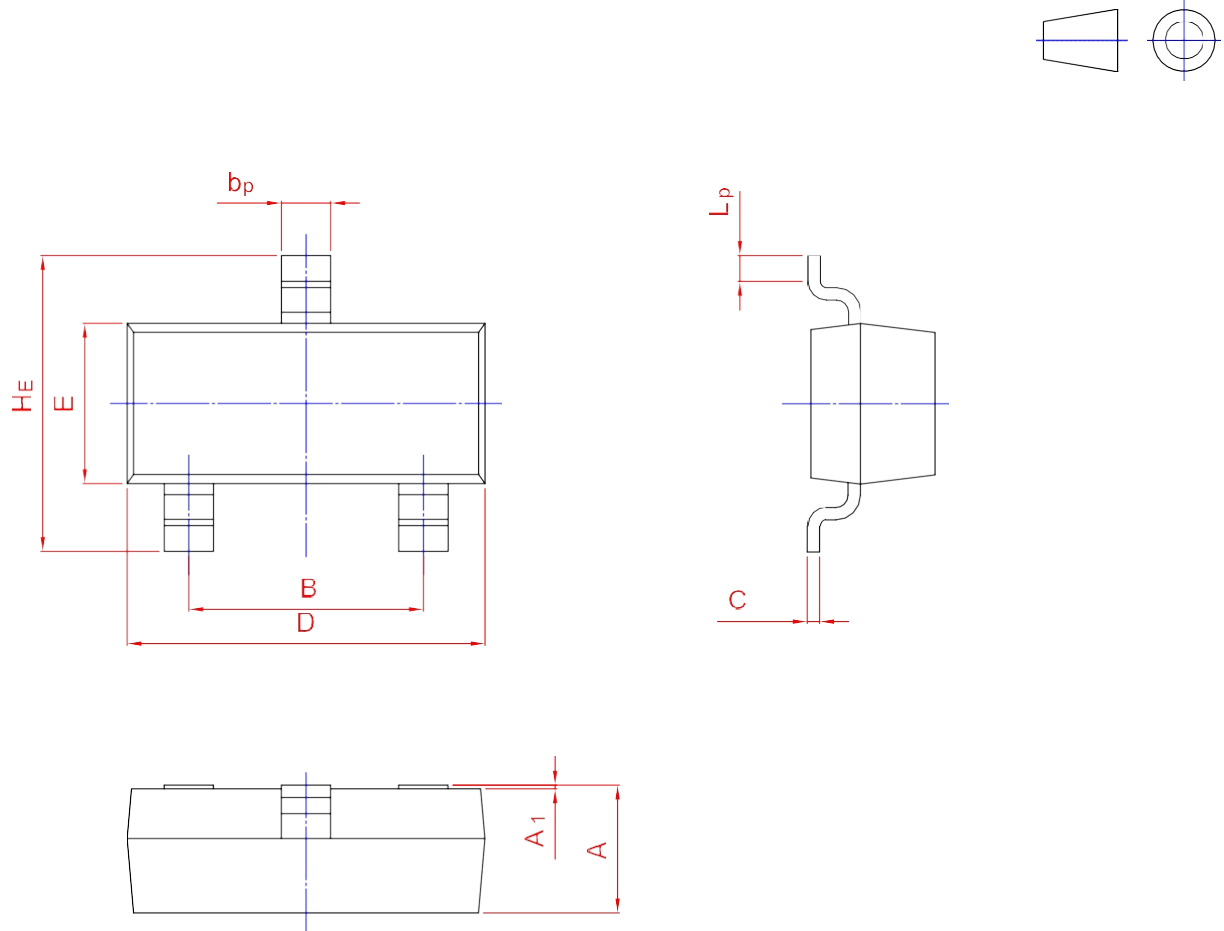
Typical Characteristics



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