Features

- Built-In Bias Resistors Enable the Configuration of an Inverter Circuit Without Connecting External Input Resistors
- The Bias Resistors Consist of Thin-Film Resistors With Complete Isolation to Allow Negative 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
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

NPN Digital Transistor

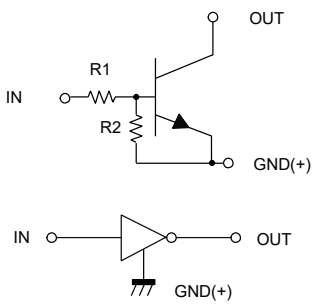
Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V_{CC}	---	50	---	V
Input Voltage	V_{IN}	-5	---	30	V
Output Current	I_o	---	100	---	mA
Power Dissipation	P_D	---	100	---	mW
Junction Temperature	T_J	---	---	150	°C
Storage Temperature	T_{stg}	-55	---	150	°C

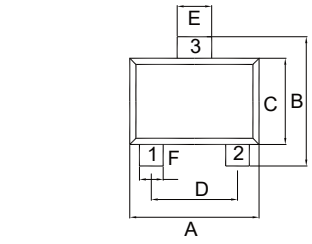
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

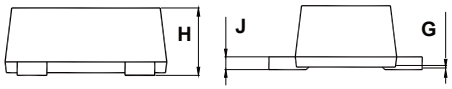
Device Marking：E23

Internal Structure



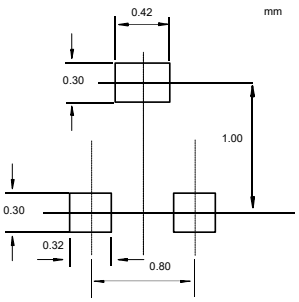
SOT-723





DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.043	0.051	1.10	1.30	
B	0.043	0.051	1.10	1.30	
C	0.028	0.035	0.70	0.90	
D	0.031		0.80		TYP.
E	0.009	0.017	0.22	0.42	
F	0.005	0.013	0.12	0.32	
G	0.000	0.002	0.00	0.05	
H	0.017	0.021	0.43	0.54	
J	0.003	0.006	0.08	0.15	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

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	V_O=0.3V, I_O=5mA
Output Voltage	$V_{O(on)}$	---	0.1	0.3	V	I_O=5mA,I_I=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_{CE}=10V, I_E=-5mA, f=100MHz

Curve Characteristics

Fig. 1 - DC Current Gain Characteristics

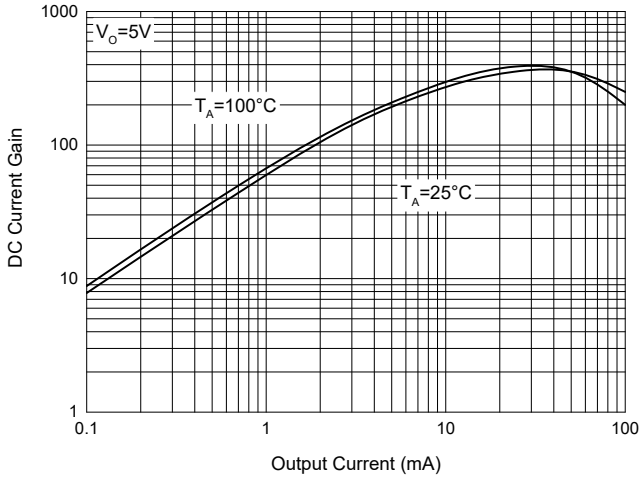


Fig. 2 - Input Voltage (on) Characteristics

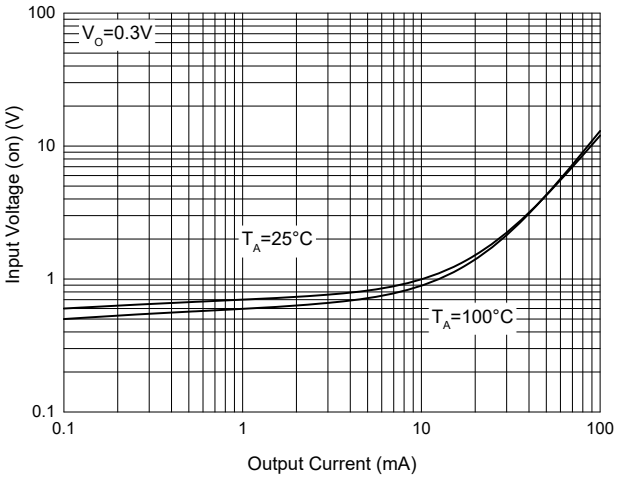


Fig. 3 - Input Voltage (off) Characteristics

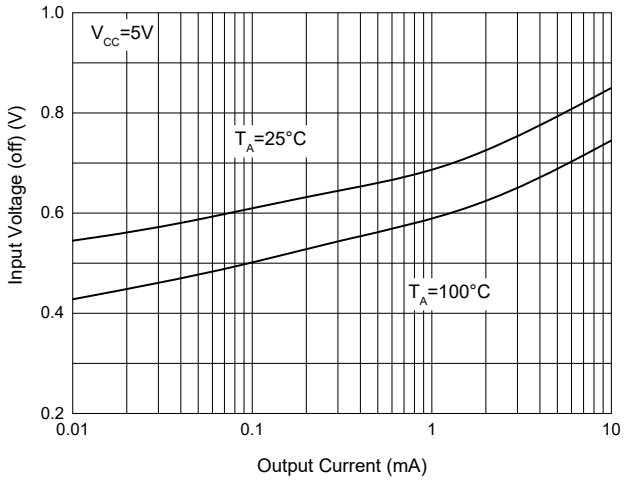


Fig. 4 - Output Voltage Characteristics

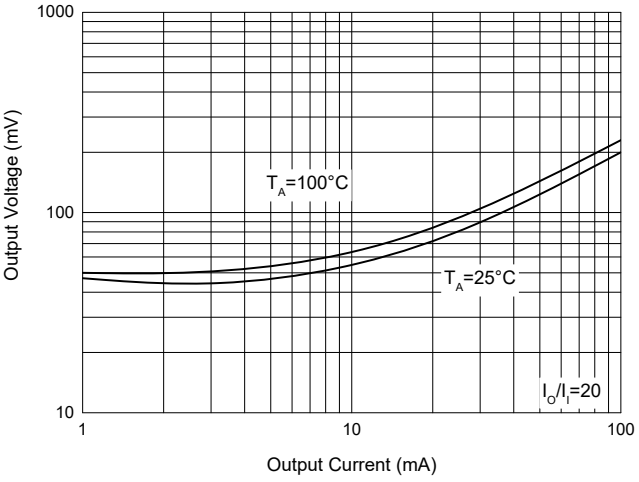
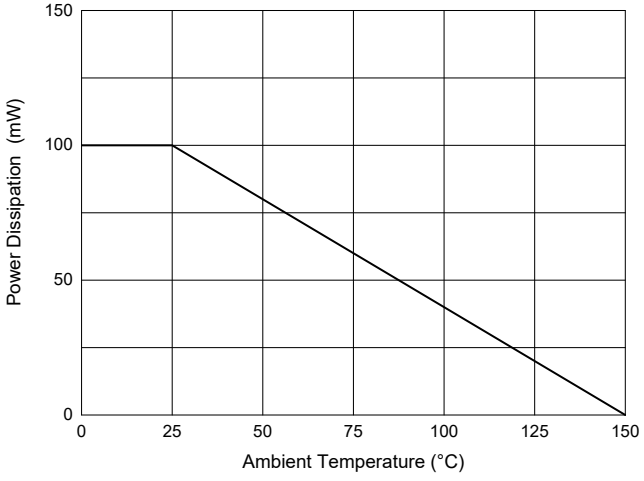


Fig. 5 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:8Kpcs/Reel

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