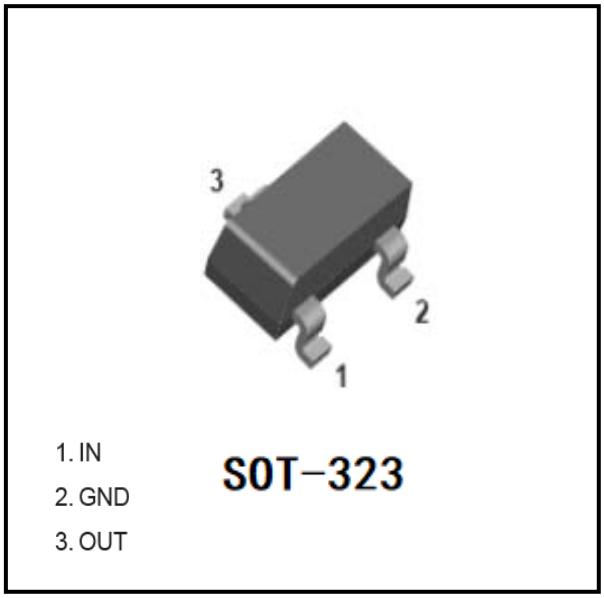
Digital Transistors (Built-in Resistors)



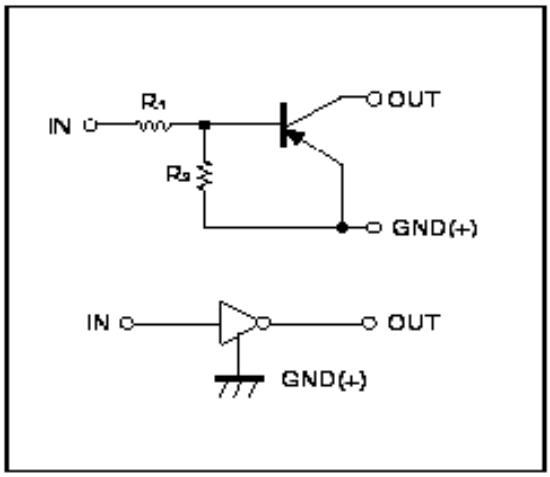
Features

- ●Epoxy meets UL-94 V-0 flammability rating
- ●Moisure Sensitivity Level 1
- ●Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- ●Surface mount package ideally Suited for Automatic Insertion
- ●PNP

Mechanical Data

- **Package**: SOT-323
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 12

■Equivalent circuit



■Maximum Ratings (Ta=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Supply Voltage	VCC	V		-50
Input Voltage	VIN	V		-12 to +10
Output Current	IO	mA		-100
Power Dissipation	PD	mW		200
Junction Temperature	Tj	℃		150
Storage Temperature	TSTG	℃		-55 to +150

■Electrical Characteristics (Ta=25℃ unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Input voltage	$V_{I(off)}$	V	VCC=-5V,Ic=-100uA	-0.5		
	$V_{I(on)}$	V	Vo=-0.3V,Ic=-20mA			-3
Output voltage	$V_{O(on)}$	V	Io /Ii =-10mA/-0.5 mA			-0.3
Input Current	I_I	mA	VI=5V			-3.8
Output current	$I_{O(off)}$	uA	VCC=-50V, Vi=0			-0.5
DC current gain	GI		Vo=-5V, Io =-20mA	20		
Input resistance	R_1	kΩ		1.54	2.2	2.86
Resistance ratio	R_2/R_1			0.8	1	1.2
Transition frequency	fT	MHz	Vo=-10V,IO=-5mA,f=100MHz		250	

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
DTA123EUA	F2	Approximate 0.005	3000	30000	120000	7” reel

■ **Characteristics** (Typical)

Fig. 1 - DC Current Gain Characteristics

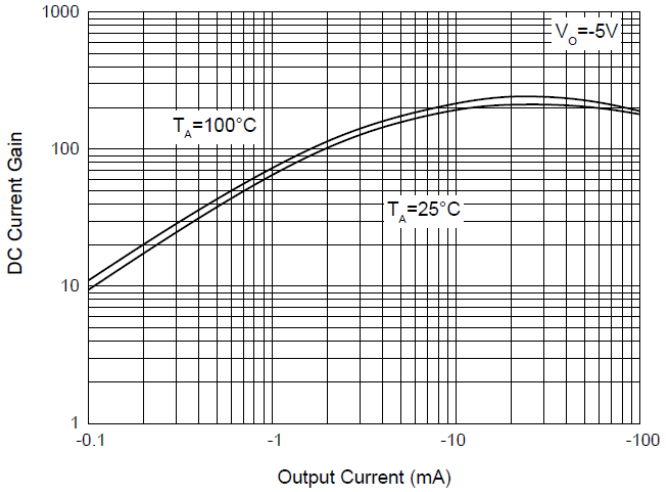


Fig. 2 - Input Voltage (on) Characteristics

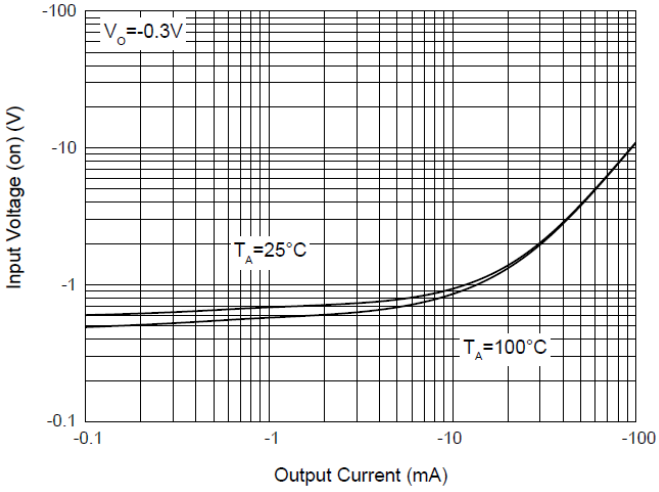


Fig. 3 - Input Voltage (off) Characteristics

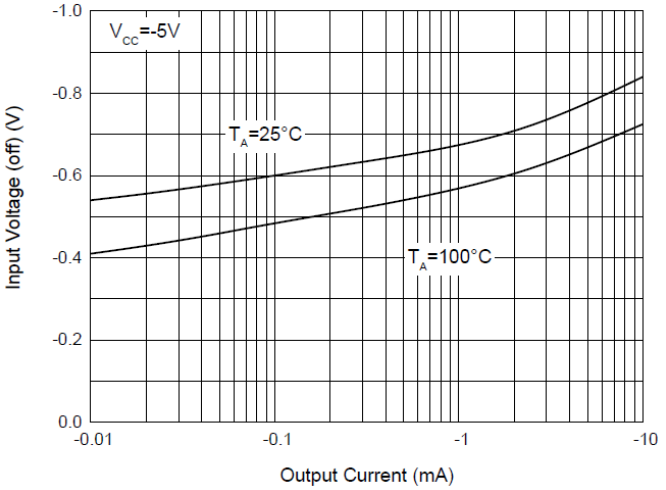


Fig. 4 - Output Voltage Characteristics

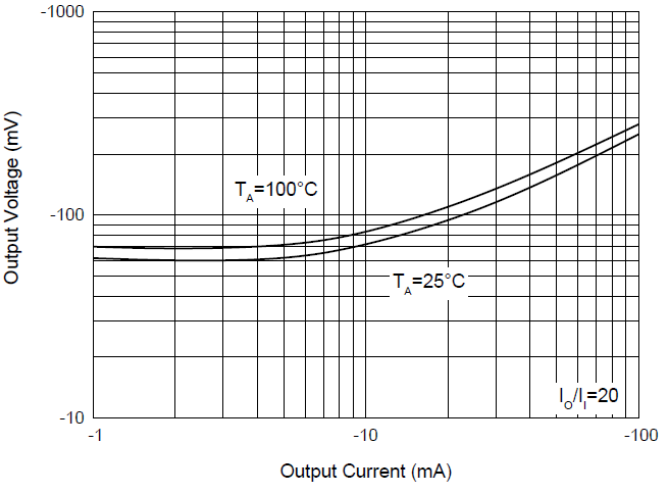
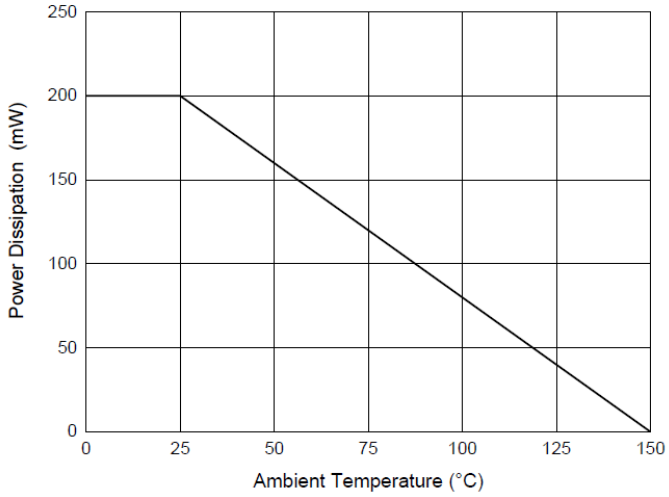
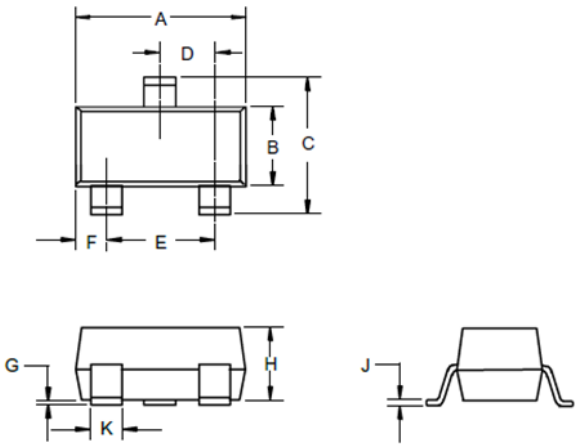


Fig. 5 - Power Derating Curve

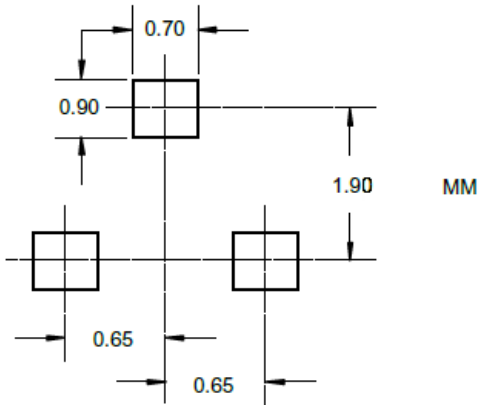


■ SOT-323 Package Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026Nominal		0.65Nominal		
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.039	0.90	1.00	
J	0.004	0.010	0.10	0.250	
K	0.006	0.016	0.15	0.40	

■ SOT-323 Suggested Pad Layout



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