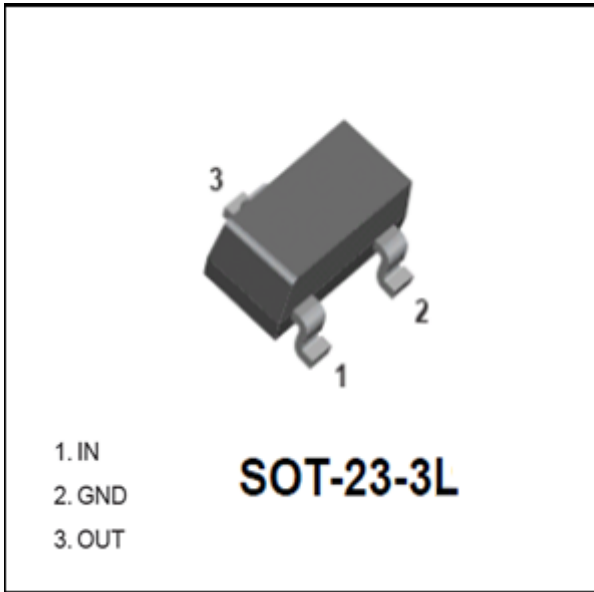


## Digital Transistors (Built-in Resistors)



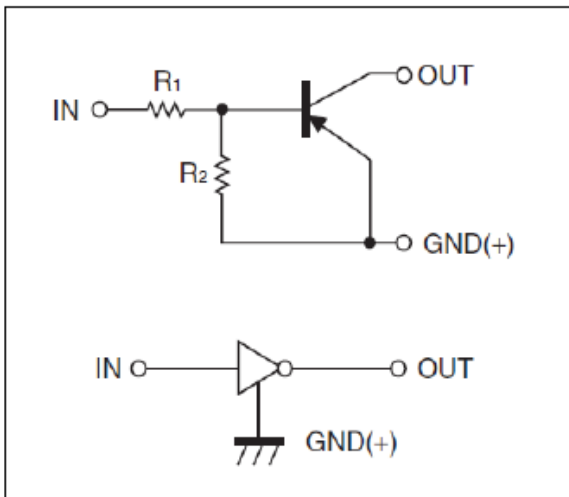
### Features

- Epoxy meets UL-94 V-0 flammability rating
- Moisture 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-23-3L
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 16

### ■Equivalent circuit



### ■Maximum Ratings (Ta=25°C Unless otherwise specified)

ITEM	SYMBOL	UNIT	VALUE
Supply Voltage	VCC	V	-50
Input Voltage	VIN	V	-40 to +10
Output Current	IO	mA	-100
Power Dissipation	PD	mW	200
Thermal Resistance, Junction to Ambient	R <sub>thJA</sub>	°C/W	625
Junction Temperature	T <sub>j</sub>	°C	150
Storage Temperature	T <sub>stg</sub>	°C	-55 to +150



# DTA144EKA

## ■ Electrical Characteristics (Ta=25°C 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=-2mA			-3
Output voltage	$V_{O(on)}$	V	Io /Ii =-10mA/-0.5 mA			-0.3
Input current	I <sub>I</sub>	mA	VI=-5V			-0.18
Output current	$I_{O(off)}$	uA	VCC=-50V, Vi=0			-0.5
DC current gain	GI		Vo=-5V, Io =-5mA	68		
Input resistance	$R_1$	kΩ		32.9	47	61.1
Resistance ratio	$R_2/R_1$			0.8	1	1.2
Transition frequency	f <sub>T</sub>	MHz	Vo=-10V, IO=-5mA, f=100MHz		250	

## ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
DTA144EKA	F2	Approximate 0.014	3000	30000	120000	7" reel



## ■ Characteristics (Typical)

Fig. 1 - DC Current Gain Characteristics

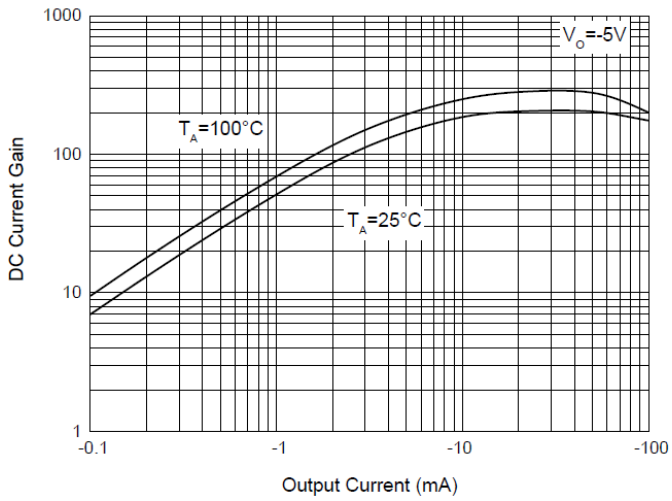


Fig. 2 - Input Voltage (on) Characteristics

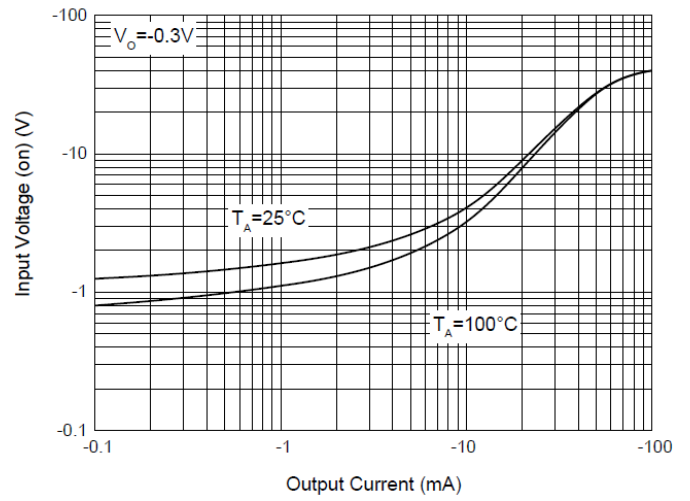


Fig. 3 - Input Voltage (off) Characteristics

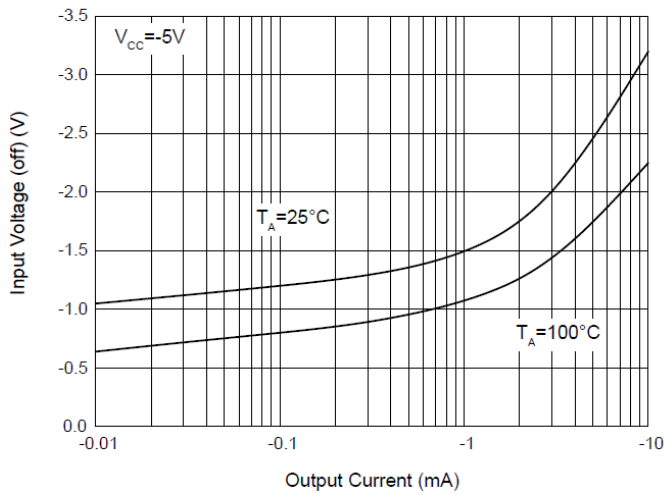


Fig. 4 - Output Voltage Characteristics

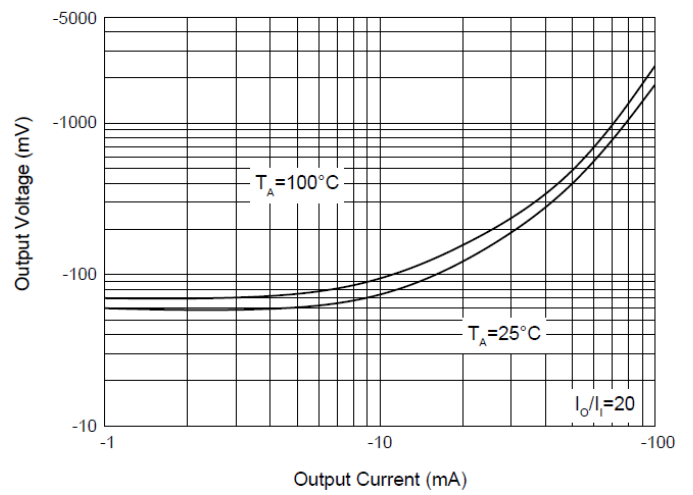
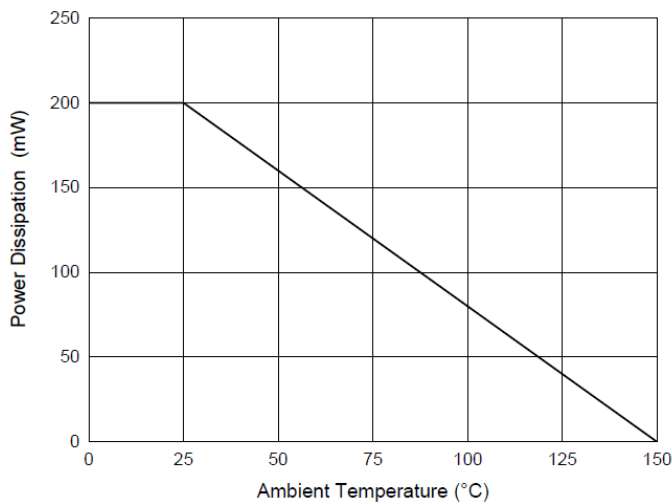


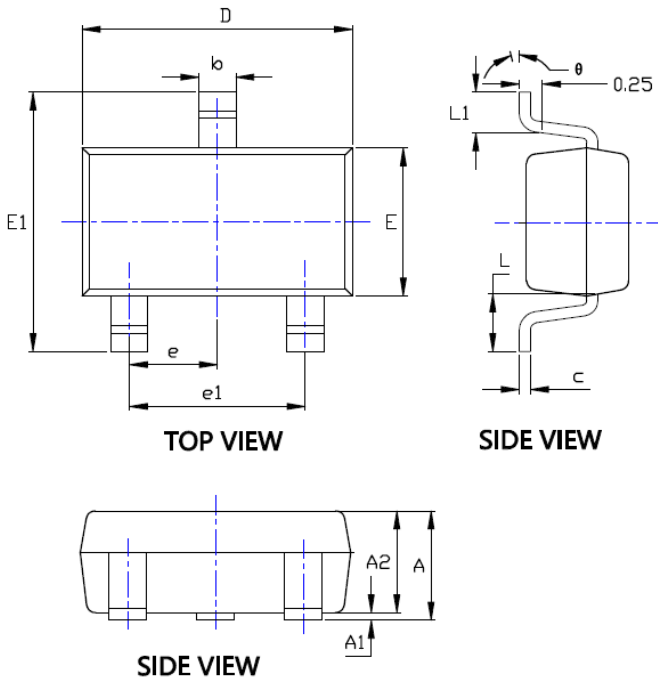
Fig. 5 - Power Derating Curve





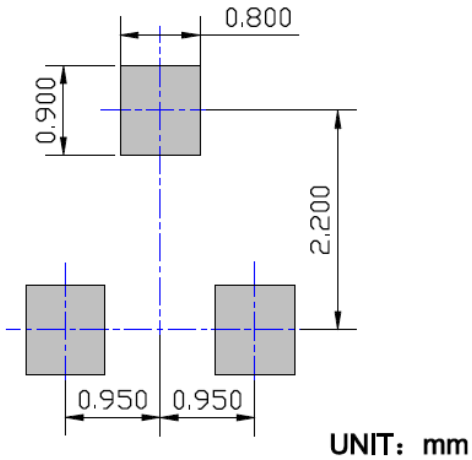
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## ■SOT-23-3L Package Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.041	0.049	1.050	1.250
A1	0.000	0.008	0.000	0.200
A2	0.041	0.045	1.050	1.150
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.111	0.119	2.820	3.020
E	0.059	0.067	1.500	1.700
E1	0.104	0.116	2.650	2.950
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.024REF		0.600REF	
L1	0.012	0.024	0.300	0.600
∅	0°	8°	0°	8°

## ■SOT-23-3L Suggested Pad Layout





## DTA144EKA

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