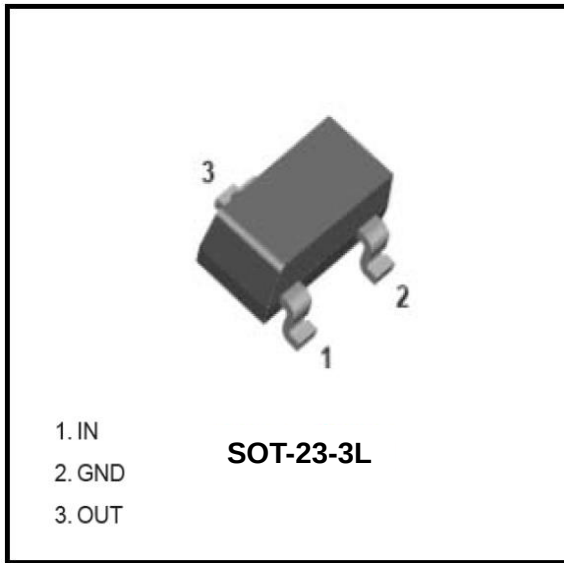


PNP Digital Transistors (Built-in Resistors)



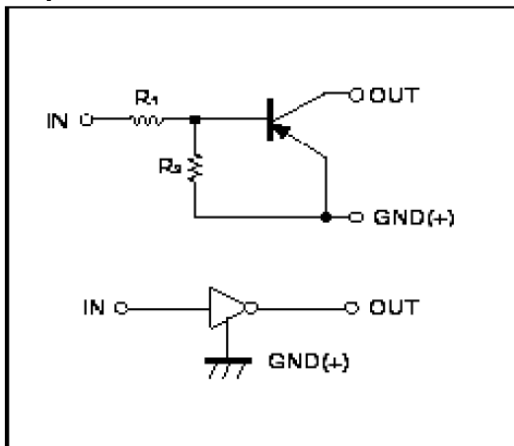
Features

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

Mechanical Data

- **Package:** SOT-23-3L
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** E13

Equivalent circuit



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

ITEM	SYMBOL	UNIT	CONDITIONS	VALUE
Supply Voltage	V_{CC}	V		-50
Input Voltage	V_{IN}	V		-30 to +5
Output Current	I_O	mA		-100
Power Dissipation	P_D	mW		200
Junction Temperature	T_J	°C		150
Storage Temperature	T_{STG}	°C		-55 to +150



DTA143ZKA

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

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Input voltage	$V_{I(off)}$	V	$V_{CC}=-5V, I_C=-100\mu A$	-0.5		
	$V_{I(on)}$	V	$V_O=-0.3V, I_C=-2mA$			-1.3
Output voltage	$V_{O(on)}$	V	$I_O/I_I=-10mA/-0.5mA$			-0.3
Input current	I_I	mA	$V_I=-5V$			-1.8
Output current	$I_{O(off)}$	uA	$V_{CC}=-50V, V_I=0$			-0.5
DC current gain	GI		$V_O=-5V, I_O=-10mA$	80		
Input resistance	R_1	kΩ		3.29	4.7	6.11
Resistance ratio	R_2/R_1			8	10	12
Transition frequency	f_T	MHz	$V_{CE}=-10V, I_E=5mA, f=100MHz$		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
DTA143ZKA	F2	Approximate 0.014	3000	30000	120000	7" reel

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A(1)}$	℃/W	625
Thermal resistance, junction-to-case	$R_{\theta J-C(1)}$	℃/W	500

Note: (1) Device mounted on PCB, single-sided copper, with standard footprint.



■ Characteristics (Typical)

Fig. 1 - DC Current Gain Characteristics

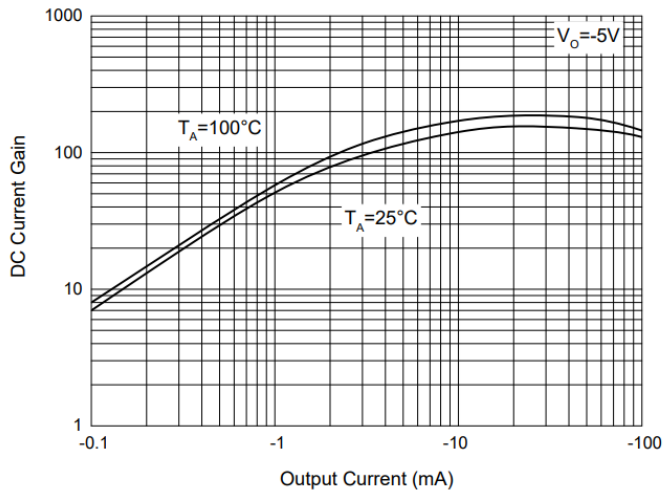


Fig. 2 - Input Voltage (on) Characteristics

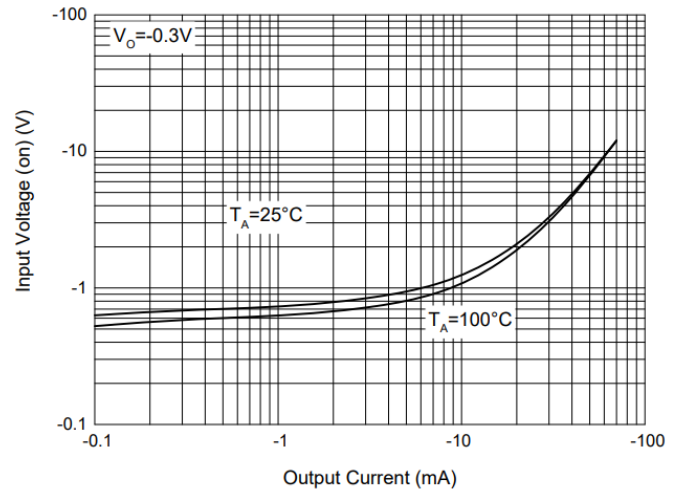


Fig. 3 - Input Voltage (off) Characteristics

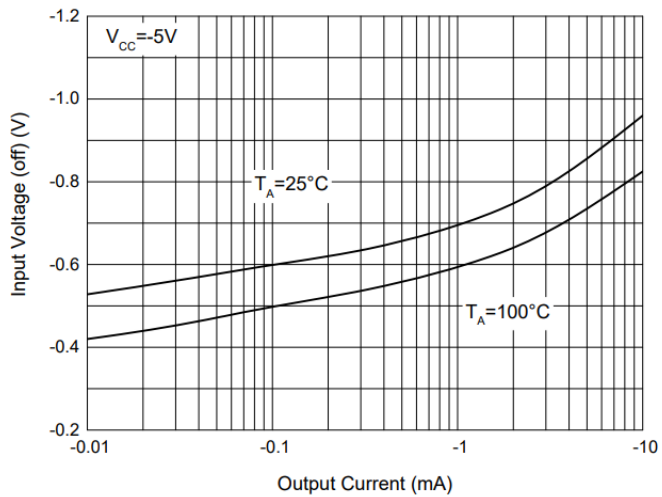


Fig. 4 - Output Voltage Characteristics

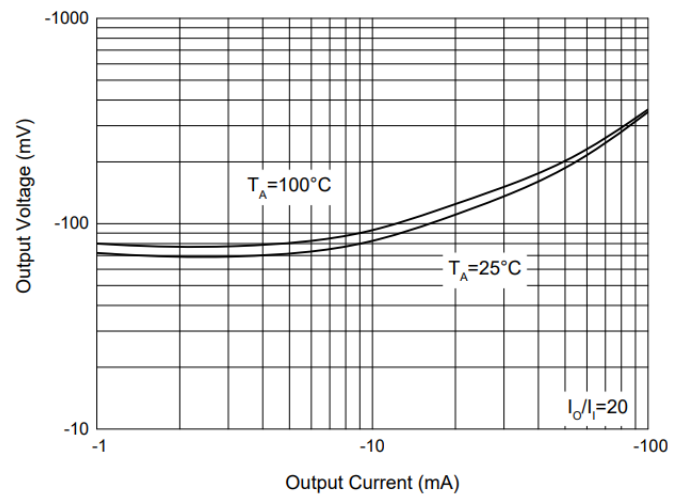
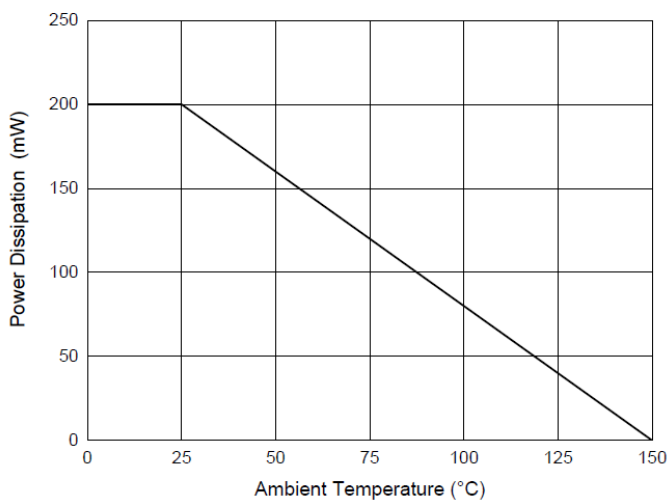


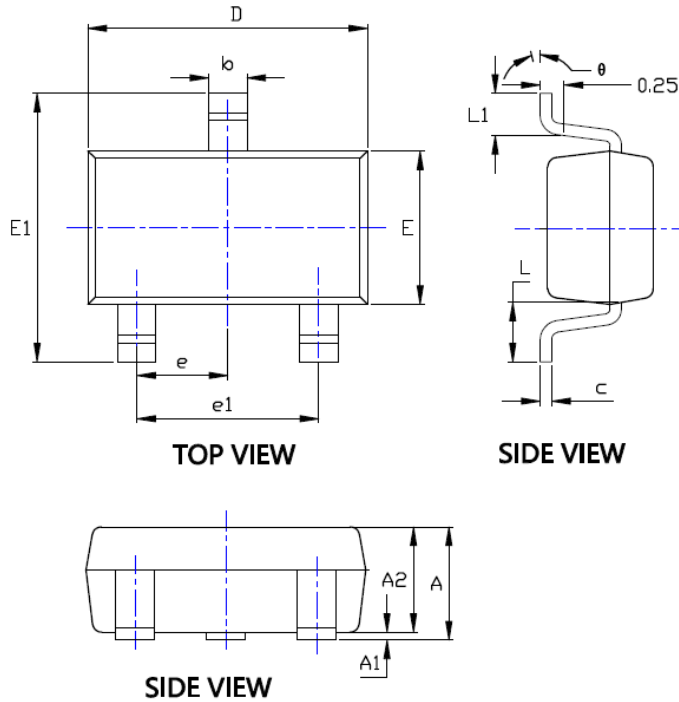
Fig. 5 - Power Derating Curve





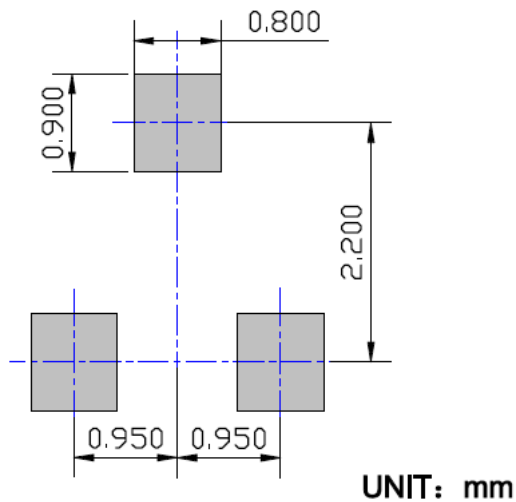
DTA143ZKA

■SOT-23-3L Package Outline Dimensions



DIMENSIONS				
SYMBOL	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°

■Suggested Pad Layout





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