

Bias Resistor Transistor

NPN Silicon Surface Mount Transistor with Monolithic Bias Resistor Network

- **Applications**

Inverter, Interface, Driver

- **Features**

- 1) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
 - 2) 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.
 - 3) Only the on/off conditions need to be set for operation, making the device design easy.
- We declare that the material of product compliance with RoHS requirements.
 - S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

- **Absolute maximum ratings** ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Supply voltage	V_{CC}	50	V
Input voltage	V_{IN}	-10 to +12	V
Output current	I_C	500	mA
Power dissipation	P_d	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

DEVICE MARKING AND RESISTOR VALUES

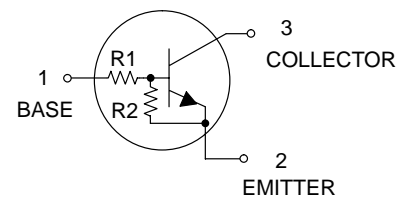
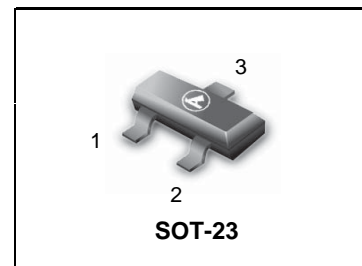
Device	Marking	R1 (K)	R2 (K)	Shipping
LDTD123ELT1G S-LDTD123ELT1G	F22	2.2	2.2	3000/Tape & Reel
LDTD123ELT3G S-LDTD123ELT3G	F22	2.2	2.2	10000/Tape & Reel

- **Electrical characteristics** ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$	-	-	0.5	V	$V_{CC}=5V, I_o=100\mu A$
	$V_{I(on)}$	3	-	-		$V_o=0.3V, I_o=20mA$
Output voltage	$V_{O(on)}$	-	0.1	0.3	V	$I_o/I_i=50mA/2.5mA$
Input current	I_i	-	-	3.8	mA	$V_i=5V$
Output current	$I_{O(off)}$	-	-	0.5	μA	$V_{CC}=50V, V_i=0V$
DC current gain	G_i	39	-	-	-	$V_o=5V, I_o=50mA$
Input resistance	R_1	1.54	2.2	2.86	k Ω	-
Resistance ratio	R_2/R_1	0.8	1	1.2	-	-
Transition frequency	f_r *	-	200	-	MHz	$V_{CE}=10V, I_E=-50mA, f=100MHz$

*Characteristics of built-in transistor.

LDTD123ELT1G
S-LDTD123ELT1G



LDTD123ELT1G ;S-LDTD123ELT1G

●Electrical characteristic curves

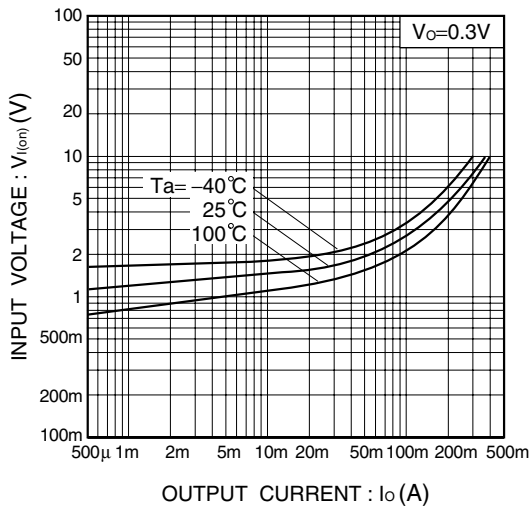


Fig.1 Input voltage vs. output current (ON characteristics)

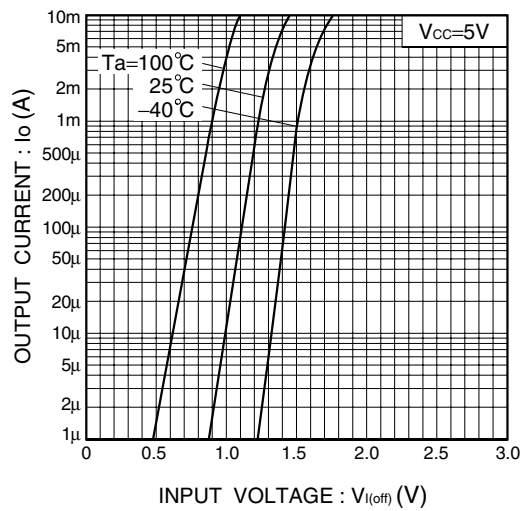


Fig.2 Output current vs. input voltage (OFF characteristics)

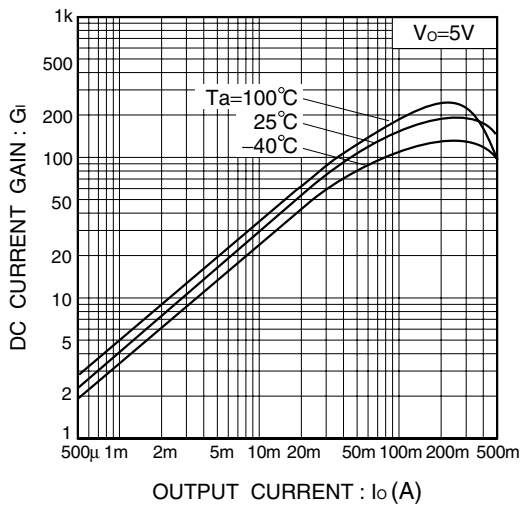


Fig.3 DC current gain vs. output current

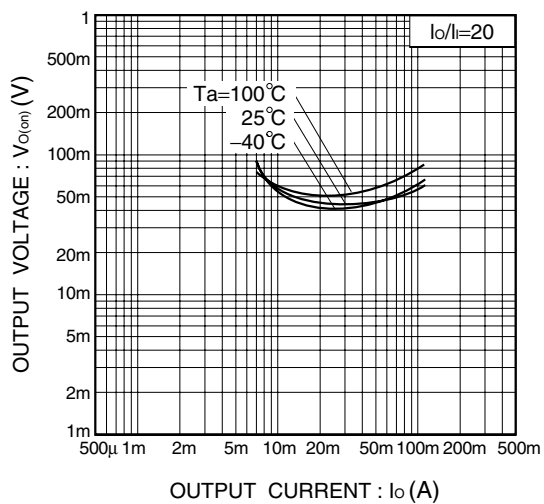


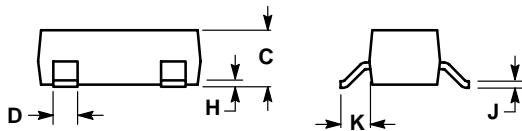
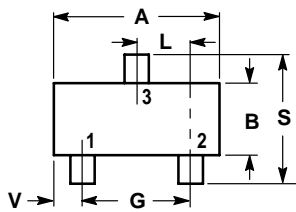
Fig.4 Output voltage vs. output current

LDTD123ELT1G ;S-LDTD123ELT1G

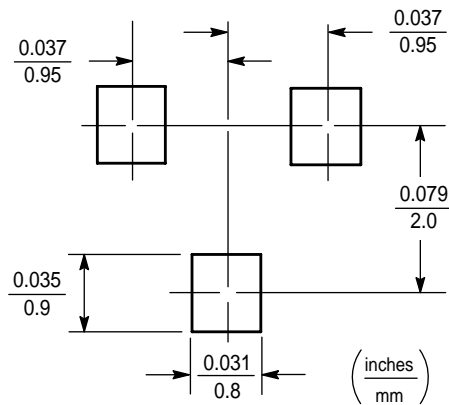
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NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60



单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)