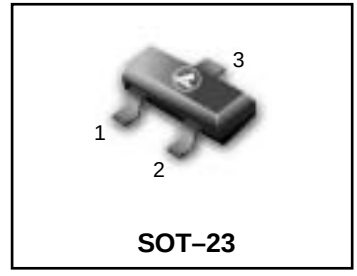
Digital transistors (built-in resistors)

Pb-Free package is available

LDTB123YLT1G



SOT–23

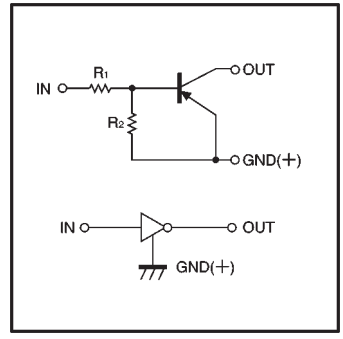
●Features

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 device design easy.
4) We declare that the material of product compliance with RoHS requirements.

●Structure

PNP digital transistor
(Built-in resistor type)

●Equivalent circuit



LDTB123YLT1G

Absolute maximum ratings (Ta = 25 ℃)

Parameter	Symbol	Limits	Unit
Supply voltage	Vcc	-50	V
Input voltage	V_{IN}	-12~+5	V
Output current	I_C	-500	mA
Power dissipation	Pd	200	mW
Junction temperature	Tj	150	℃
Storage temperature	Tstg	-55~+150	℃

Electrical characteristics (Ta = 25 ℃)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Input voltage	V_I(off)	-	-	-0.3	V	Vcc = -5V,Io = -100μA
	V_I(on)	-2	-	-		Vo = -0.3V,Io = -20 mA
Output voltage	Vo(on)	-	-0.1	-0.3	V	Io/I_I = -50 mA/-2.5 mA
Input current	I_I	-	-	-3.6	mA	V_I = -5V
Output current	Io(off)	-	-	-0.5	μA	Vcc = -50V,VI = 0V
DC current gain	h FE	56	-	-		Vo = -5V,Io=-50 mA
Input resistance	R_1	1.54	2.2	2.86	k Ω	-
Resistance ratio	R_2/R_1	3.6	4.5	5.5		-
Transition frequency	f_T	-	200	-	MHz	V_{CE} = -10V,I_E = 5m A,f = 100MHz*

* Transition frequency of the device

DEVICE MARKING

LDTB123YLT1G = F52

ORDERING INFORMATION

Device	Marking	Shipping
LDTB123YLT1G	F52	3000/Tape&Reel
LDTB123YLT3G	F52	10000/Tape&Reel

LDTB123YLT1G

Electrical characteristic curves

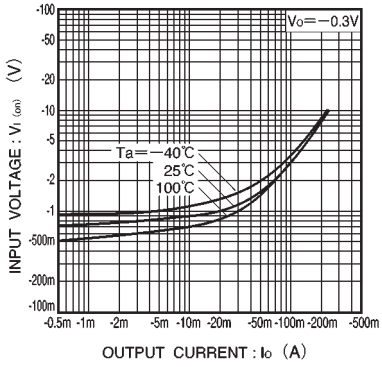


Fig.1 Input voltage vs. output current (ON characteristics)

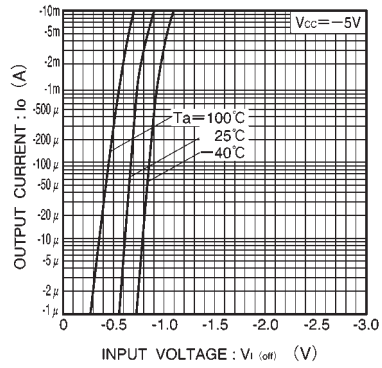


Fig.2 Output current vs. input voltage (OFF characteristics)

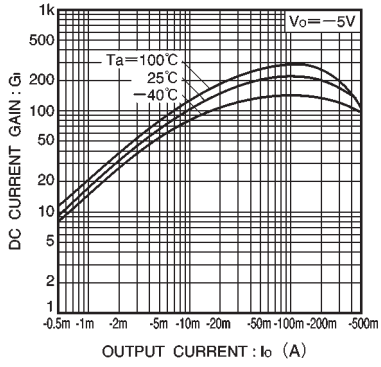


Fig.3 DC current gain vs. output current

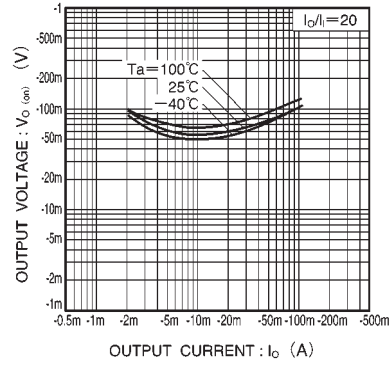


Fig.4 Output voltage vs. output current

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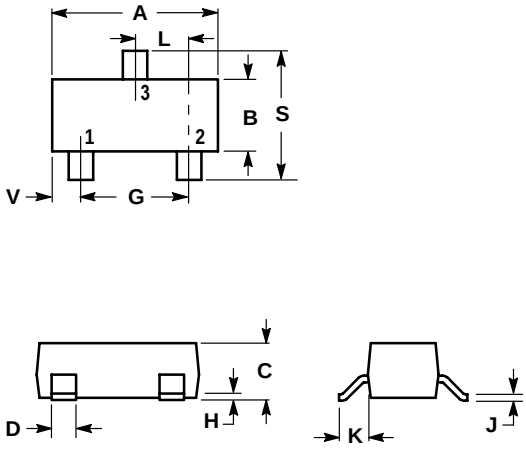
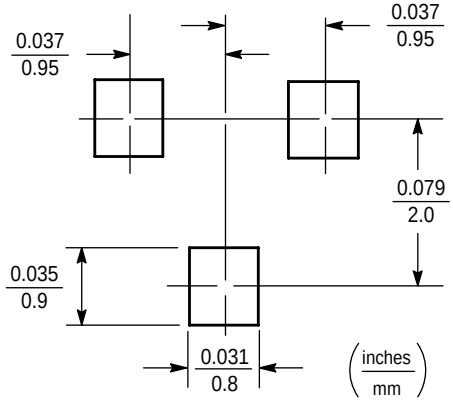


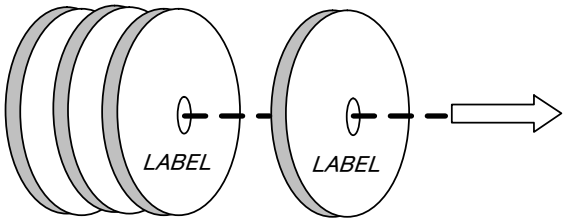
NOTES:

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

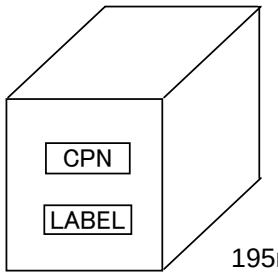


Shipment Specification



10 Reel

3000PCS/Reel
8000PCS/Reel (SOT-723,SOD-723)



Dim(Unit:mm)

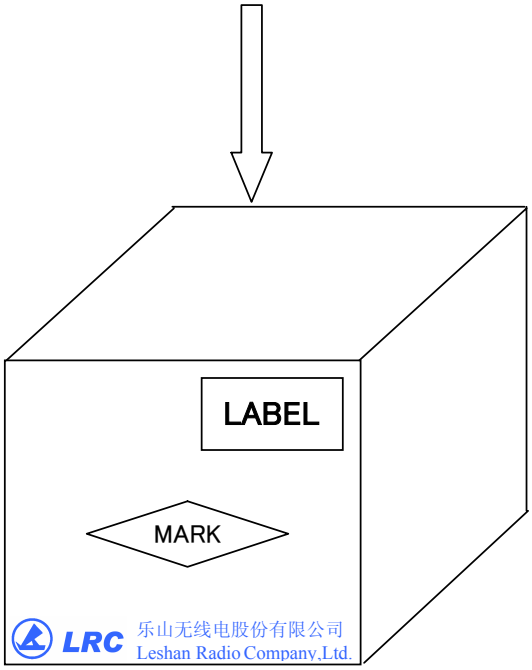
195mm*195mm*150mm

10Reel/Inner Box

30KPCS/Inner Box
80KPCS/Inner Box (SOT-723,SOD-723)

Dim(Unit:mm)

460mm*400mm*420mm



12 Inner Box/Carton

360KPCS/Carton
960KPCS/Carton (SOT-723,SOD-723)