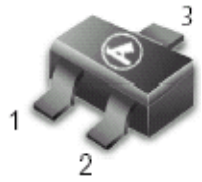
Digital transistors

LDTB114ELT1G



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 negative 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

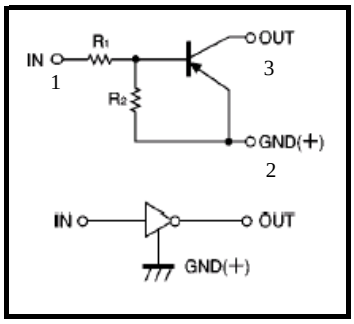
PNP digital transistor

(Built-in resistor type)

Driver Marking

LDTB114ELT1G=F14

●Equivalent circuit



Ordering Information

Device	Marking	Shipping
LDTB114ELT1G	F14	3000/Tape&Reel
LDTB114ELT3G	F14	10000/Tape&Reel

LDTB114ELT1G

●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits(DTB114E□)		Unit
		K	S	
Supply voltage	V_{CC}	−50		V
Input voltage	V_{IN}	−40～+10		V
Output current	I_C	−500		mA
Power dissipation	Pd	200	300	mW
Junction temperature	Tj	150		℃
Storage temperature	Tstg	−55～+150		℃

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$	—	—	−0.5	V	V_{CC}=−5V, I_O=100 μA
	$V_{I(on)}$	−3	—	—		V_O=−0.3V, I_O=−10mA
Output voltage	$V_{O(on)}$	—	−0.1	−0.3	V	I_O/I_I=−50mA/−2.5mA
Input current	I_I	—	—	−0.88	mA	V_I=−5V
Output current	$I_{O(off)}$	—	—	−0.5	μA	V_{CC}=−50V, V_I=0V
DC current gain	G_I	56	—	—	—	V_O=−5V, I_O=−50mA
Input resistance	R_1	7	10	13	kΩ	—
Resistance ratio	R_2/R_1	0.8	1	1.2	—	—
Transition frequency	f_T	—	200	—	MHz	V_{CE}=−10V, I_E=5mA, f=100MHz *

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●**Electrical characteristic curves**

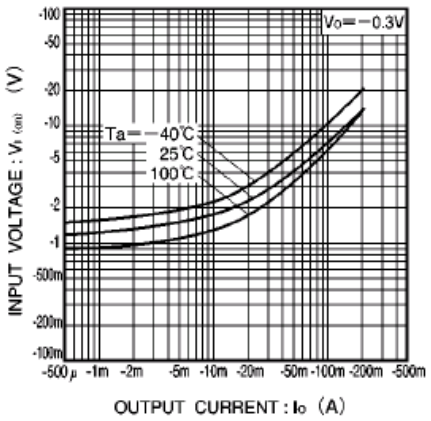

Fig.1 Input voltage vs. output current (ON characteristics)

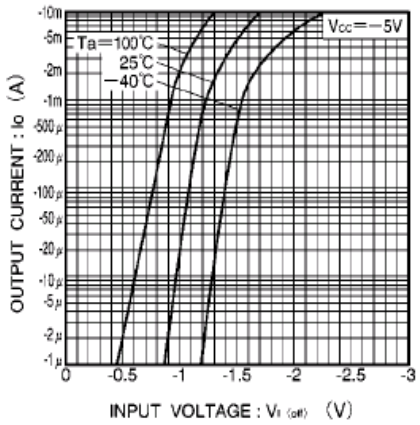

Fig.2 Output current vs. input voltage (OFF characteristics)

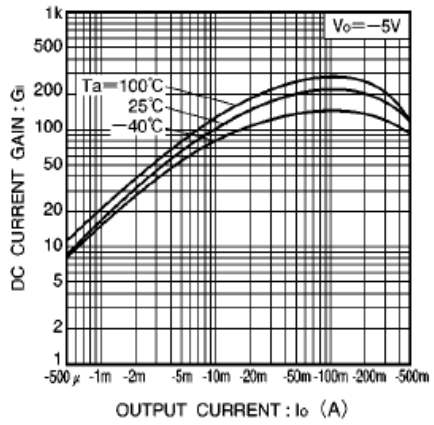

Fig.3 DC current gain vs. output current

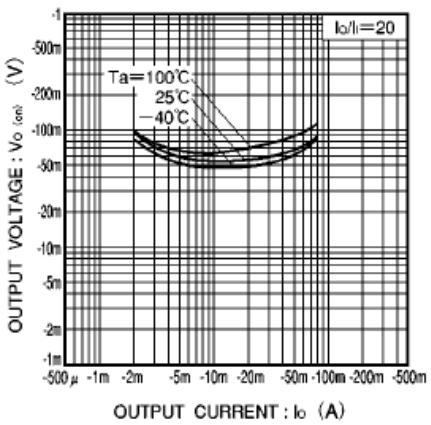

Fig.4 Output voltage vs. output current

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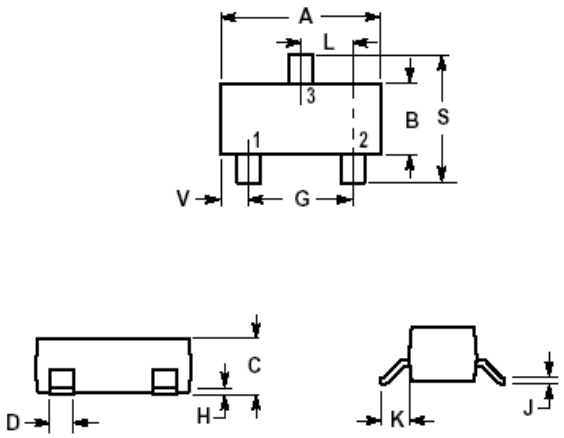
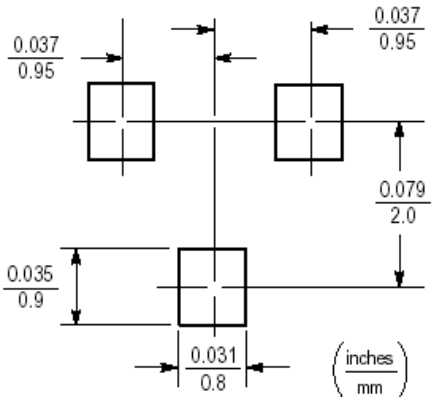
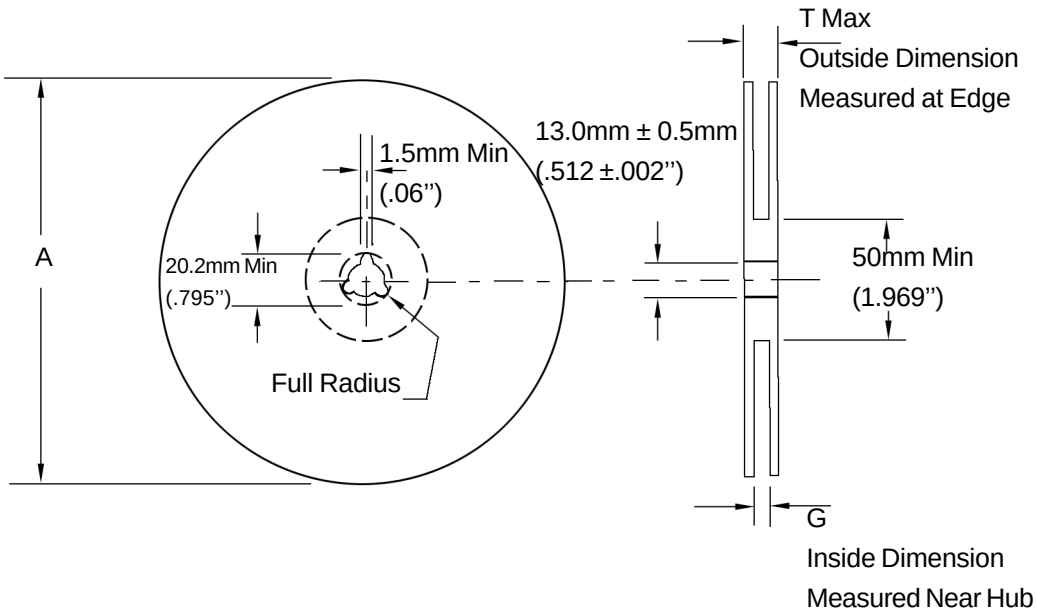


NOTES:
1.DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2.CONTROLLING DIMENSION:INCH

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



EMBOSSED TAPE AND REEL DATA
FOR DISCRETES



Size	A Max	G	T Max
8 mm	330mm (12.992")	8.4mm+1.5mm, -0.0 (.33"+.059", -0.00)	14.4mm (.56")

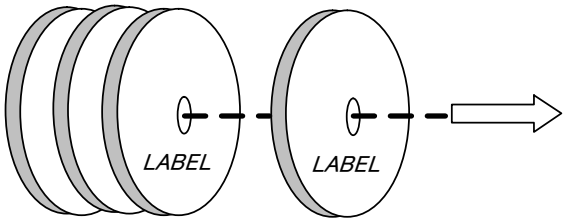
Reel Dimensions

Metric Dimensions Govern — English are in parentheses for reference only

Storage Conditions

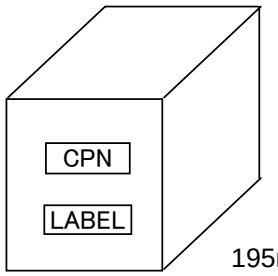
Temperature: 5 to 40 Deg.C (20 to 30 Deg. C is preferred)
Humidity: 30 to 80 RH (40 to 60 is preferred)
Recommended Period: One year after manufacturing
(This recommended period is for the soldering condition only. The characteristics and reliabilities of the products are not restricted to this limitation)

Shipment Specification



10 Reel

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



Dim(Unit:mm)

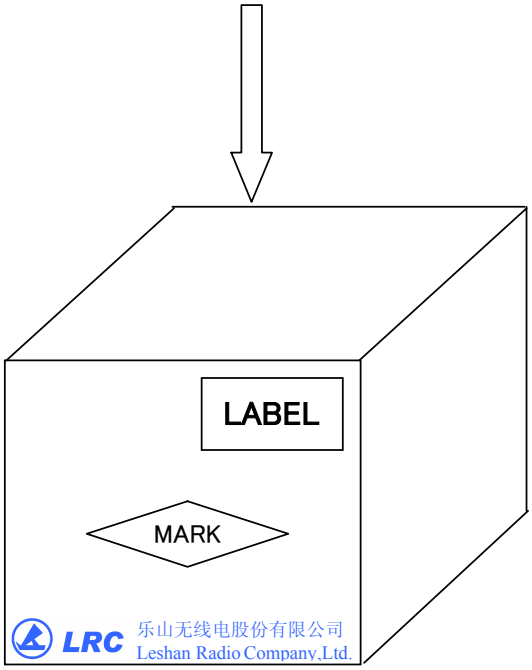
195mm*195mm*150mm

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)