

Bias Resistor Transistor

PNP 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** (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V _{CC}	-50	V
Input voltage	V _{IN}	-30 to +10	V
Output current	I _C	-500	mA
Power dissipation	P _D	200	mW
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

DEVICE MARKING AND RESISTOR VALUES

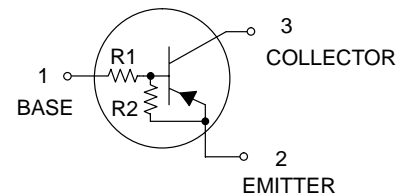
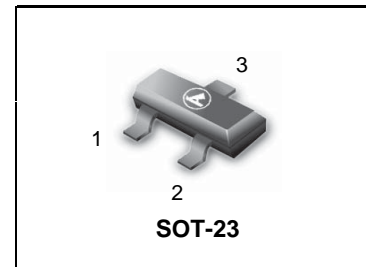
Device	Marking	R1 (K)	R2 (K)	Shipping
LDTB143ELT1G S-LDTB143ELT1G	K6	4.7	4.7	3000/Tape & Reel
LDTB143ELT3G S-LDTB143ELT3G	K6	4.7	4.7	10000/Tape & Reel

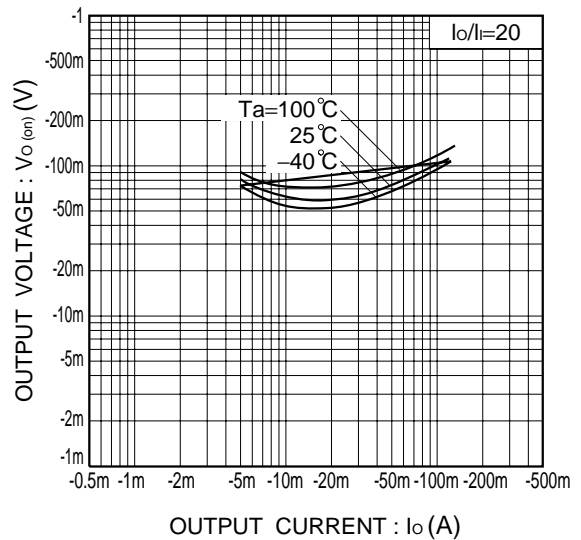
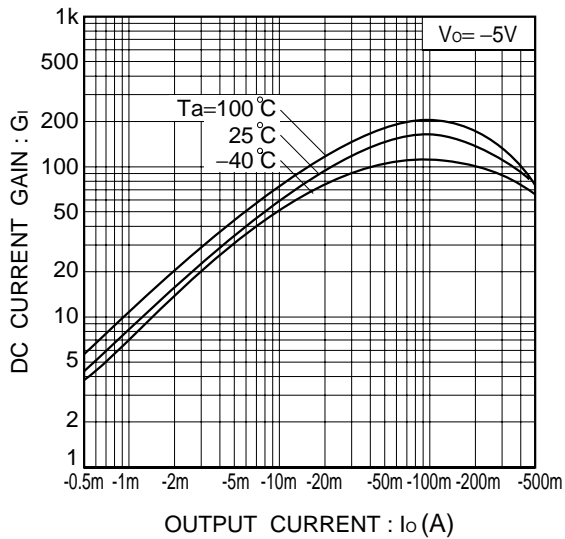
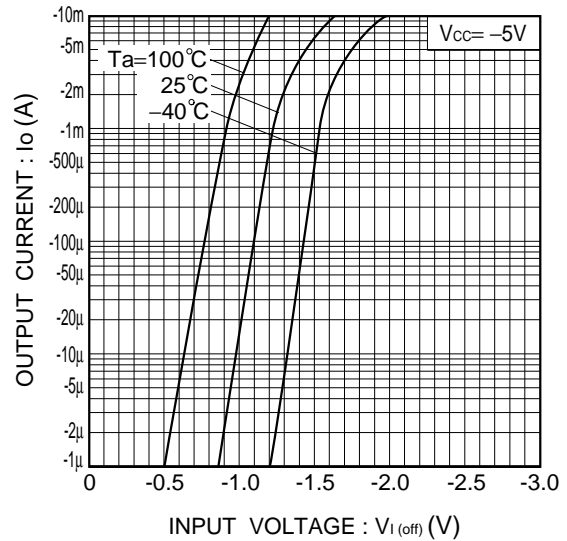
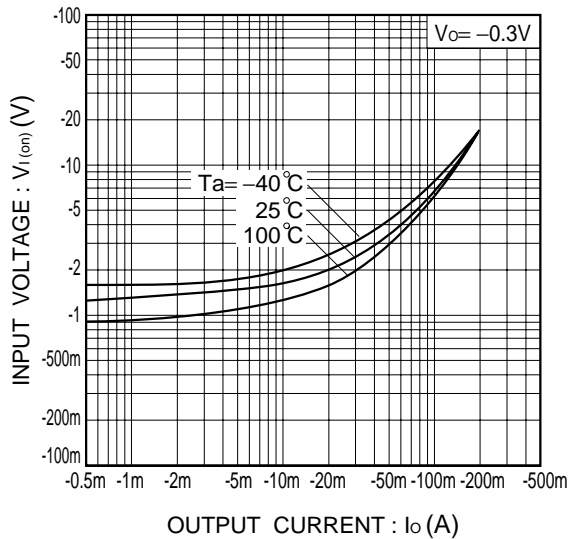
- **Electrical characteristics** (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V _{I(off)}	-	-	-0.5	V	V _{CC} = -5V, I _C = -100μA
	V _{I(on)}	-3	-	-	V	V _O = -0.3V, I _C = -20mA
Output voltage	V _{O(on)}	-	-0.1	-0.3	V	I _O /I _I = -50mA/-2.5mA
Input current	I _I	-	-	-1.8	mA	V _I = -5V
Output current	I _{O(off)}	-	-	-0.5	μA	V _{CC} = -50V, V _I =0V
DC current gain	G _I	47	-	-	-	V _O = -5V, I _C = -50mA
Input resistance	R ₁	3.29	4.7	6.11	kΩ	-
Resistance ratio	R ₂ /R ₁	0.8	1	1.2	-	-
Transition frequency	f _T *	-	200	-	MHz	V _{CE} = -10V, I _E =50mA, f=100MHz

* Characteristics of built-in transistor

LDTB143ELT1G
S-LDTB143ELT1G



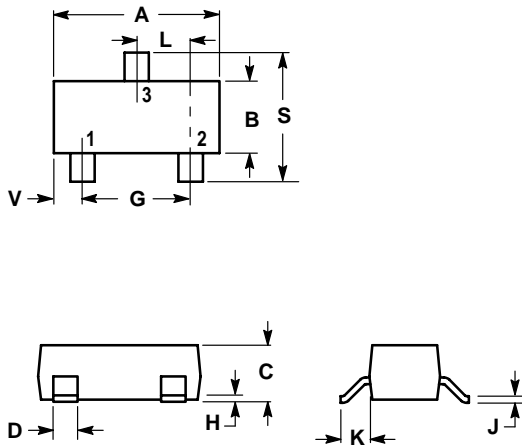
LDTB143ELT1G ; S-LDTB143ELT1G
●Electrical characteristic curves


LDTB143ELT1G;S-LDTB143ELT1G

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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

