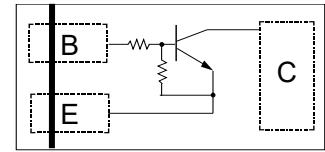
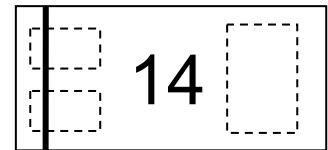


Feature

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- 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.
- Only the on/off conditions need to be set for operation, making the device design easy.



Top view



Marking (Top View)

Applications

- Inverter
- Interface
- Driver

Mechanical Characteristics

- Lead finish: 100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature: 260°C
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 μm
- Pin flatness: ≤3mil

Structure

PNP epitaxial planar silicon transistor (Resistor built-in type)

Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Input voltage	$V_{I(off)}$	$V_{CC}=-5V, I_o=-100\mu A$	-	-	-0.5	V
	$V_{I(on)}$	$V_o=-0.3V, I_o=-10mA$	-3	-	-	V
Output voltage	$V_{O(off)}$	$I_o/I_i=-10mA/-0.5mA$	-	-0.1	-0.3	V
Input current	I_i	$V_i=-5V$	-	-	-0.88	mA
Output current	$I_{O(off)}$	$V_{CC}=-50V, V_i=0V$	-	-	-0.5	μA
DC current gain	G_1	$V_o=-5V, I_o=-5mA$	30	-	-	-
Input resistance	R_1	-	7	10	13	KΩ
Resistance ration	R_2/R_1	-	0.88	1	1.2	-
Transition frequency	f_T	$V_{CE}=-10V, I_E=5mA, f=100MHz$	-	250	-	MHz

Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Supply voltage	V_{CC}	-50	V
Input voltage	V_{IN}	-40 to +10	V
Output current	I_o	-50	mA
	$I_{C(MAX.)}$	-100	mA
Power dissipation	P_d	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Typical Characteristics

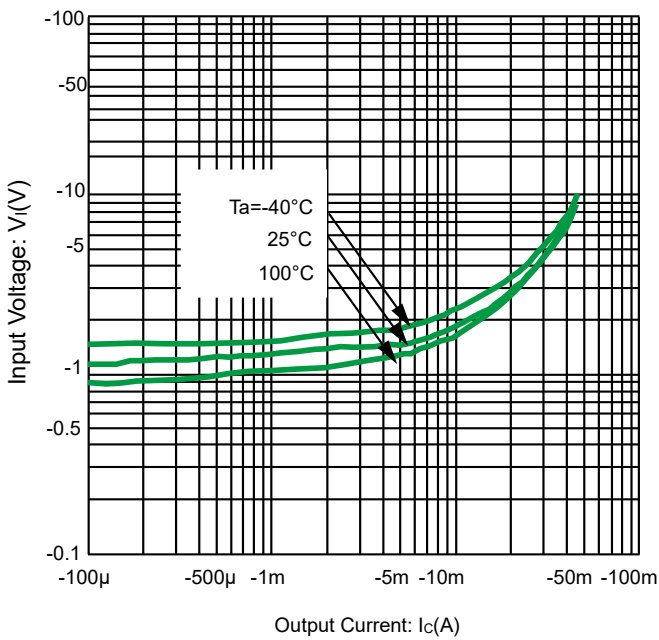


Fig 1. Input Voltage vs. output current
@ $V_{CC} = -0.3V$ (ON characteristics)

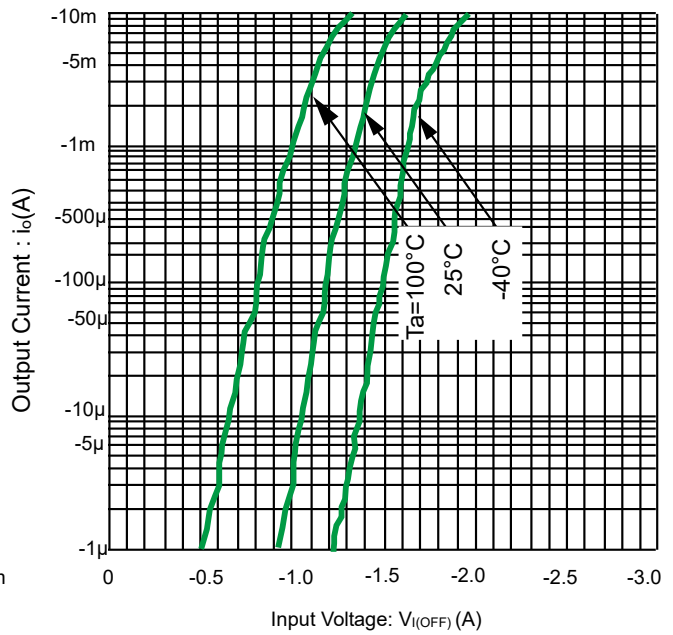
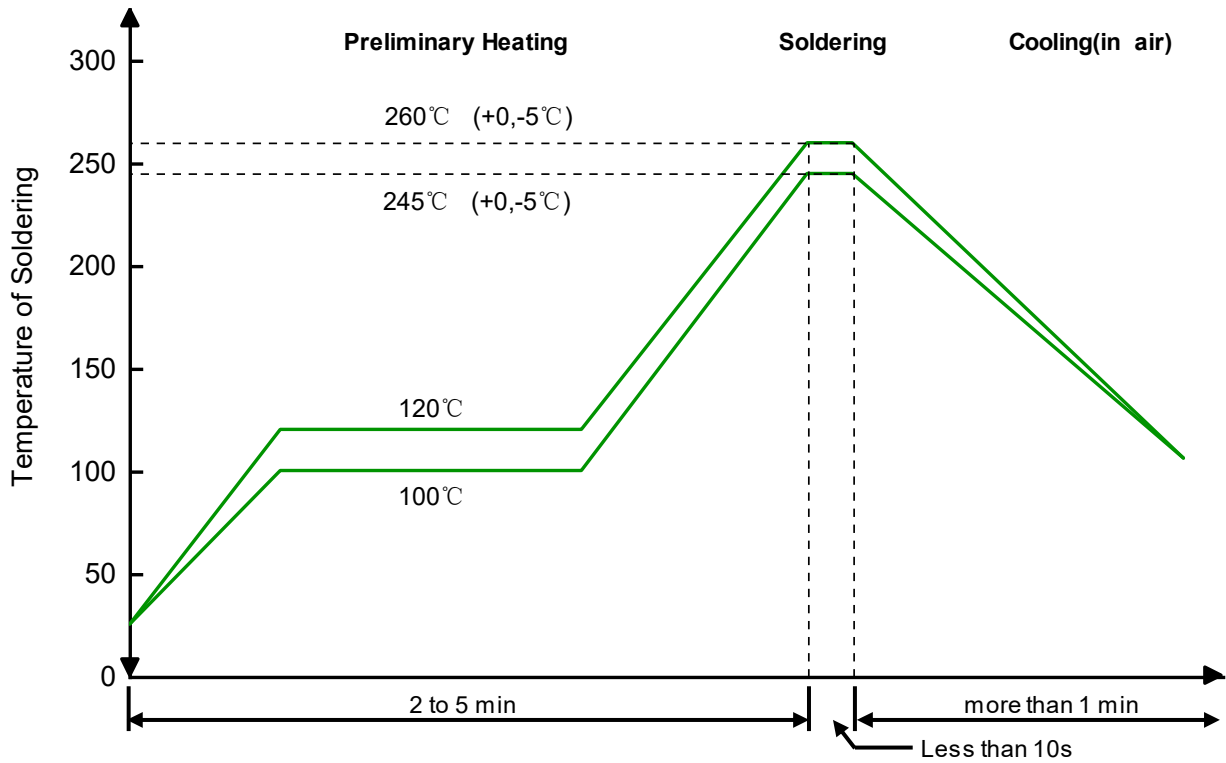


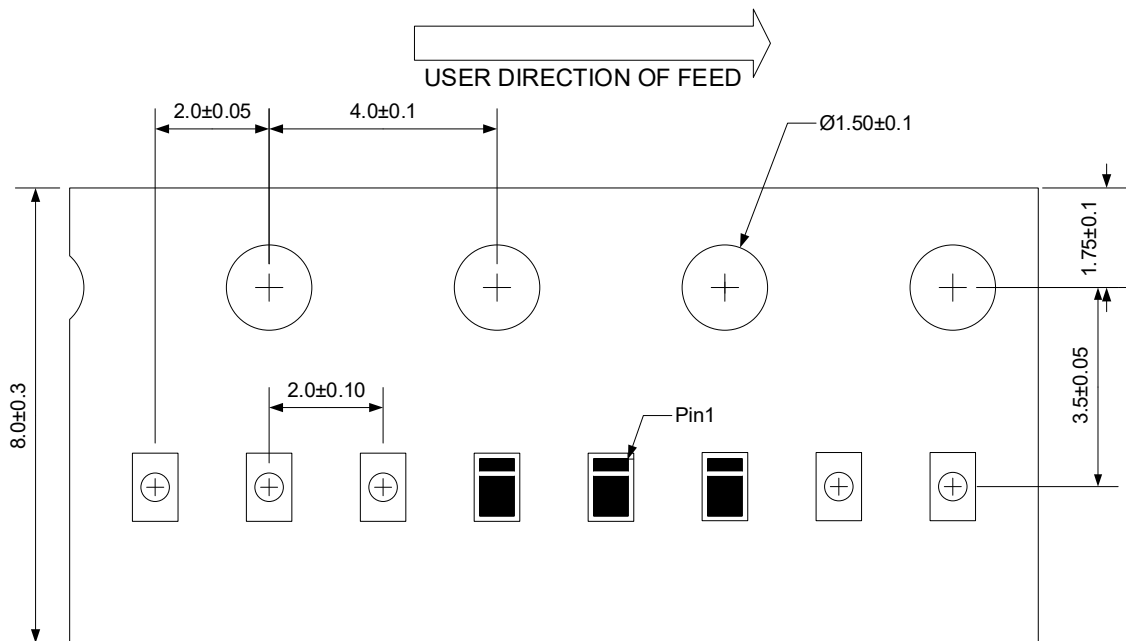
Fig 2. Output current vs. input voltage
@ $V_{CC} = -5V$ (OFF characteristics)

Solder Reflow Recommendation



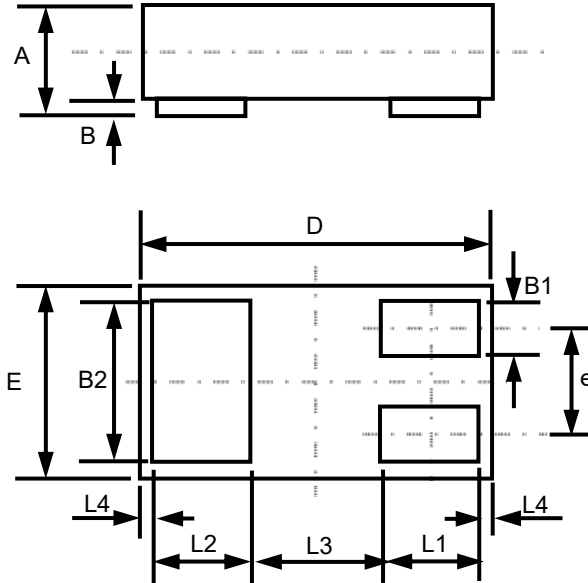
Remark: Pb free for 260°C; Pb for 245°C.

Load with information

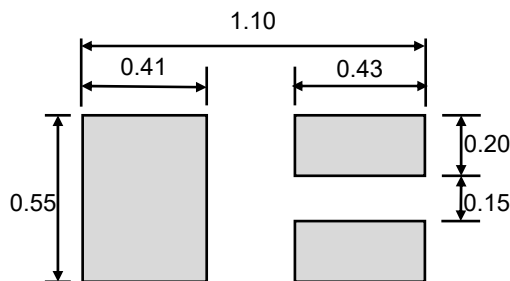


Unit:mm

Product dimension (DFN1006-3L)



Dim	Millimeters		
	MIN	Typ	MAX
A	0.33	0.47	0.50
B	0.00	0.03	0.05
B1	0.10	0.15	0.20
B2	0.45	0.50	0.55
D	0.85	1.00	1.15
E	0.45	0.60	0.75
e	--	0.35	--
L1	0.20	0.25	0.30
L2	0.20	0.25	0.30
L3	--	0.39	--
L4	--	0.05	--




Unit: mm

Suggested PCB Layout

Ordering information

Device	Package	Shipping
PDTA114EN	DFN1006-3L (Pb-Free)	10000 / Tape & Reel


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