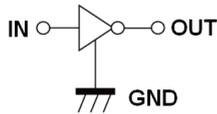
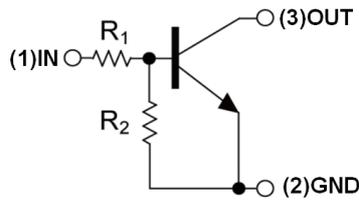
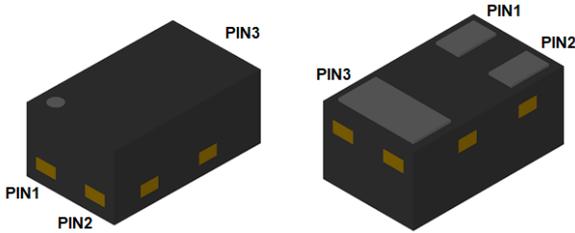


## NPN Digital Transistor (Built-in Resistors)



### Features

- Halogen free and RoHS compliant.
- Epoxy meets UL-94 V-0 flammability rating.
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.

### Mechanical data

- **Package:** DFN1006-3L
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				64
Supply voltage	$V_{CC}$	V		50
Input voltage	$V_{IN}$	V		-6 to +40
Output current	$I_o$	mA		100
Power dissipation	$P_D$	mW		100
Operation junction temperature	$T_J$	$^\circ\text{C}$		-55 to +150
Storage temperature	$T_{STG}$	$^\circ\text{C}$		-55 to +150



# DTC114YL3

RoHS  
COMPLIANT

## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Input voltage	V <sub>I(OFF)</sub>	V	V <sub>CC</sub> =5V, I <sub>O</sub> =100uA	0.3		
	V <sub>I(ON)</sub>	V	V <sub>O</sub> =0.3V, I <sub>O</sub> =1mA			1.4
Output voltage	V <sub>O(ON)</sub>	V	I <sub>O</sub> /I <sub>I</sub> =5mA/0.25mA			0.3
Input current	I <sub>I</sub>	mA	V <sub>I</sub> =5V			0.88
Output current	I <sub>O(OFF)</sub>	uA	V <sub>CC</sub> =50V, V <sub>I</sub> =0			0.5
DC current gain	G <sub>I</sub>		V <sub>O</sub> =5V, I <sub>O</sub> =5mA	68		
Input resistance	R <sub>1</sub>	kΩ		7	10	13
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>			3.7	4.7	5.7
Transition frequency	f <sub>T</sub>	MHz	I <sub>O</sub> =5mA, V <sub>O</sub> =10V, f=100MHz		250	

## ■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R <sub>θJ-A</sub> <sup>(1)</sup>	°C/W	833

Note:1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint.

## ■ Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
DTC114YL3	F1	Approximate 0.89	10000	100000	400000	Tape & Reel

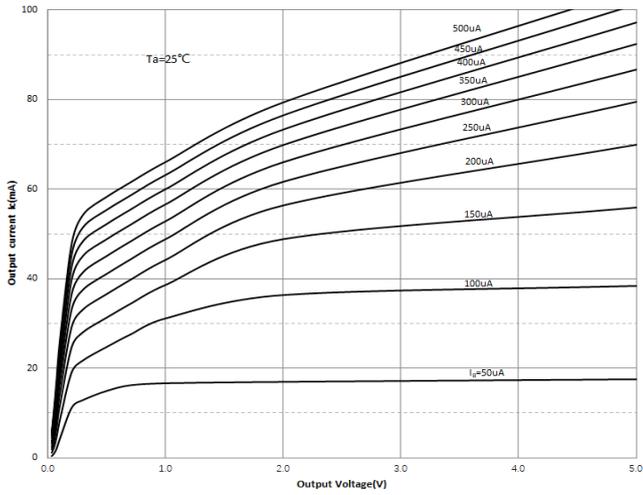


# DTC114YL3

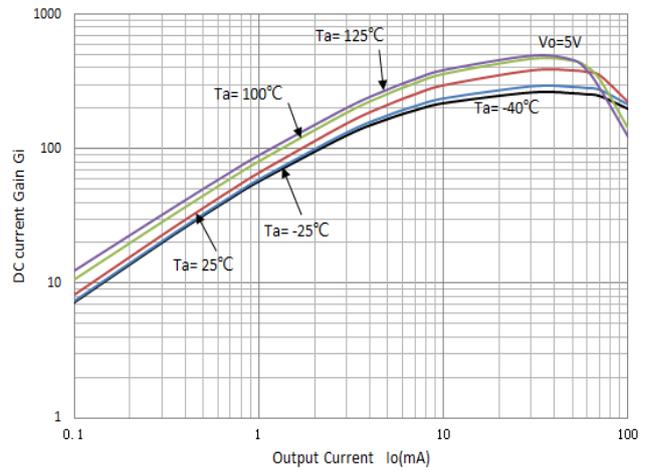
RoHS  
COMPLIANT

## Typical of Characteristics

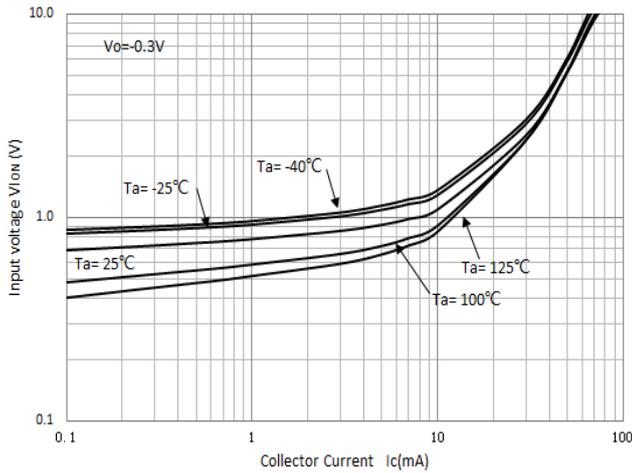
Output current vs. output voltage



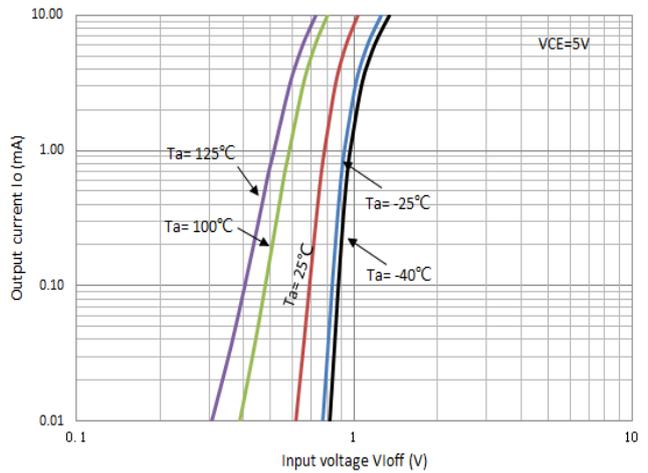
DC current Gain Characteristics



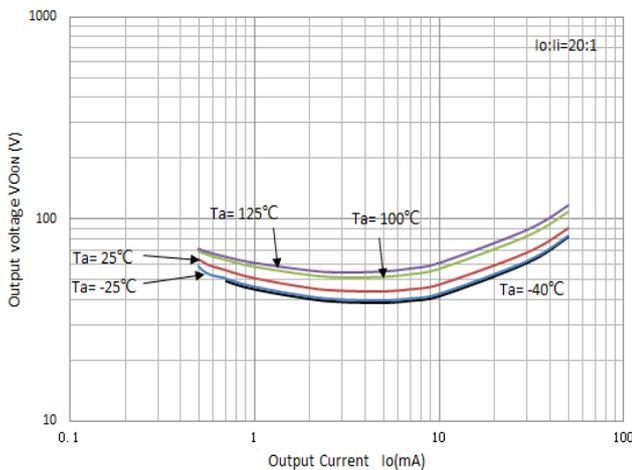
ON Characteristics



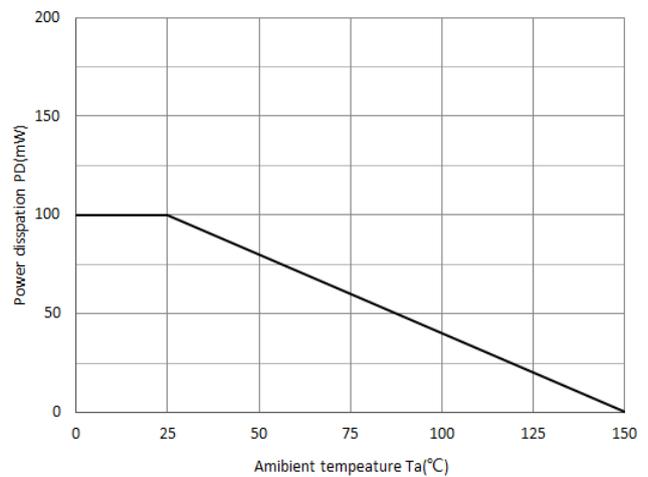
Off Characteristics



Output Voltage vs Output Current

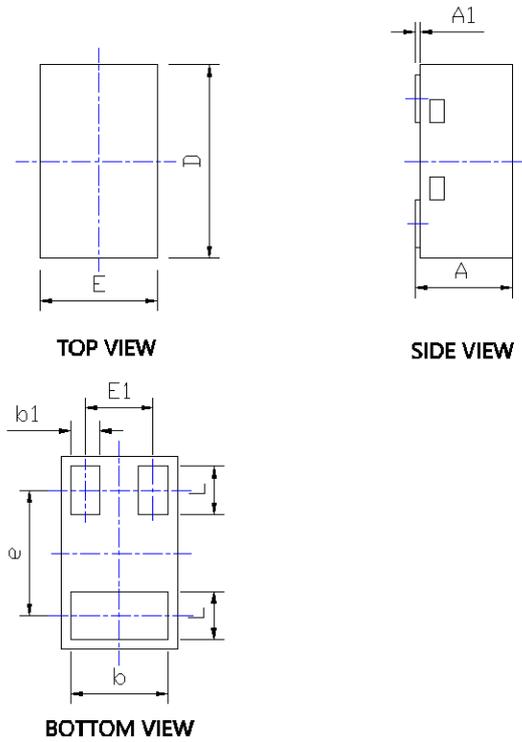


Power dissipation



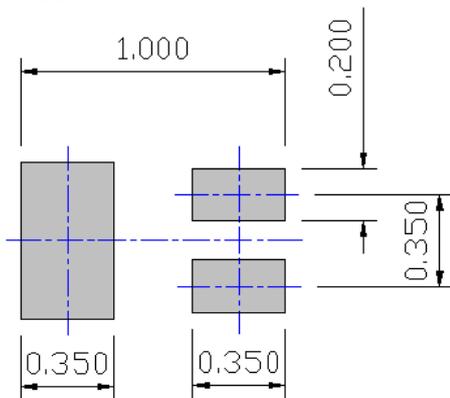


## ■ Outline Dimensions



DIMENSIONS			
SYMBOL	Millimeter		
	MIN.	NOM.	MAX.
A	0.42	---	0.55
A1	0.025REF		
b	0.45	0.50	0.55
b1	0.10	0.15	0.20
D	0.95	1.00	1.05
E	0.55	0.60	0.65
E1	0.35BSC		
e	0.65BSC		
L	0.20	0.25	0.30

## ■ Suggested Pad Layout



UNIT: mm



## DTC114YL3

RoHS  
COMPLIANT

---

### Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function, or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.