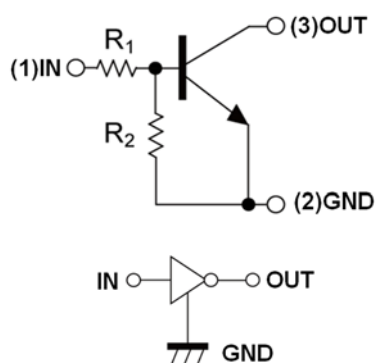
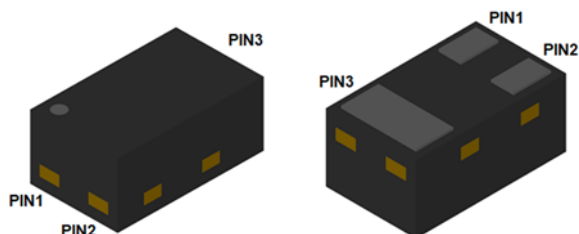


NPN Digital Transistor (Built-in Resistors)



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	Value
Device marking code			DS
Supply voltage	V_{CC}	V	50
Input voltage	V_{IN}	V	-10 to +40
Output current	I_O	mA	100
Power dissipation	P_D	mW	150
Operation junction temperature	T_J	$^{\circ}\text{C}$	-55 to +150
Storage temperature	T_{STG}	$^{\circ}\text{C}$	-55 to +150



DTC114EL3

RoHS
COMPLIANT

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Input voltage	V _{I(OFF)}	V	V _{CC} =5V, I _O =100uA	0.5		
	V _{I(ON)}	V	V _O =0.3V, I _O =10mA			3.
Output voltage	V _{O(ON)}	V	I _O /I _I =10mA/0.5mA			0.3
Input current	I _I	mA	V _I =5V			0.88
Output current	I _{O(OFF)}	uA	V _{CC} =50V, V _I =0			0.5
DC current gain	G _I		V _O =5V, I _O =5mA	30		
Input resistance	R _I	kΩ		7	10	13
Resistance ratio	R ₂ /R ₁			0.8	1	1.2
Transition frequency	f _T	MHz	I _E =5mA, V _{CE} =10V, f=100MHz		250	

■ Thermal Characteristics

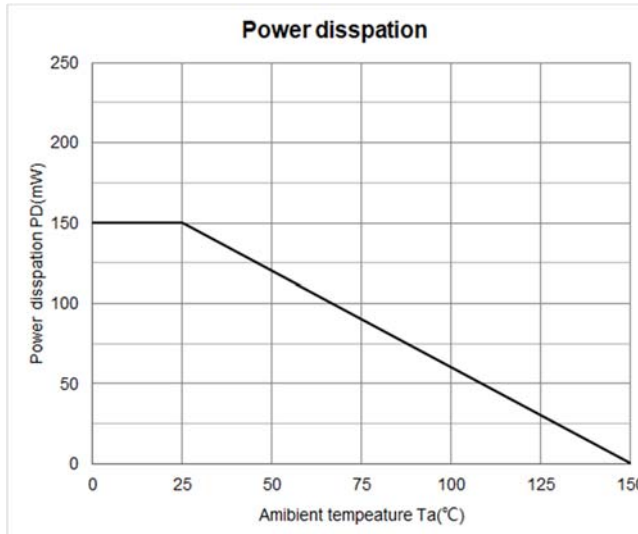
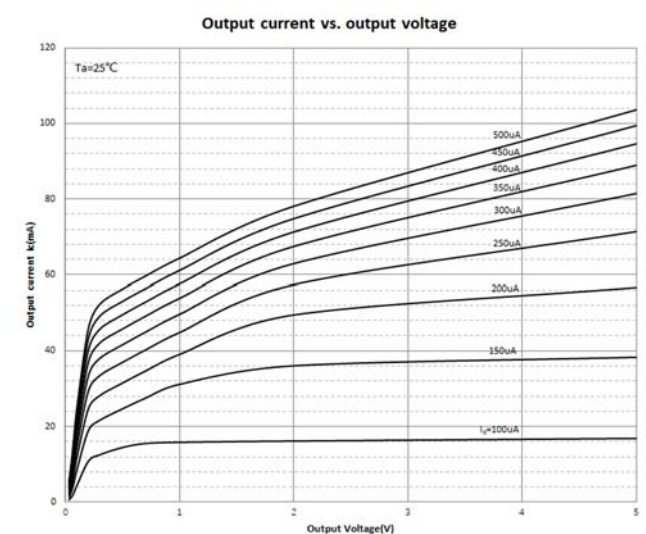
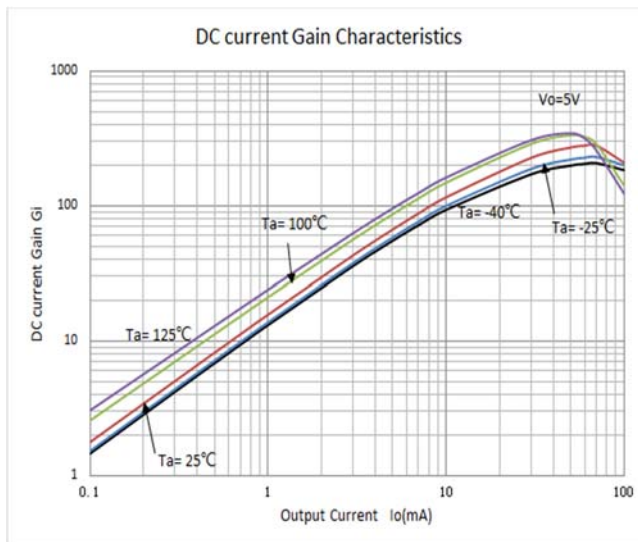
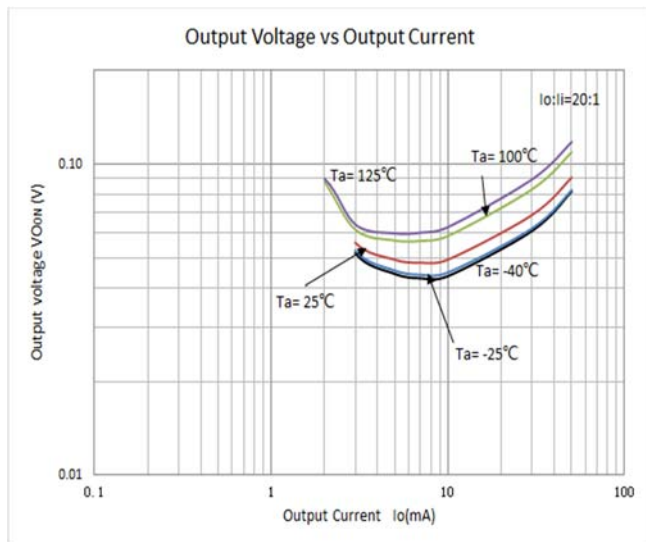
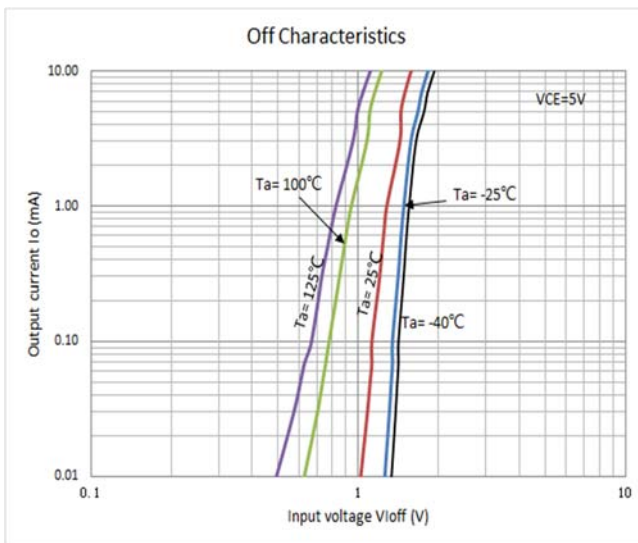
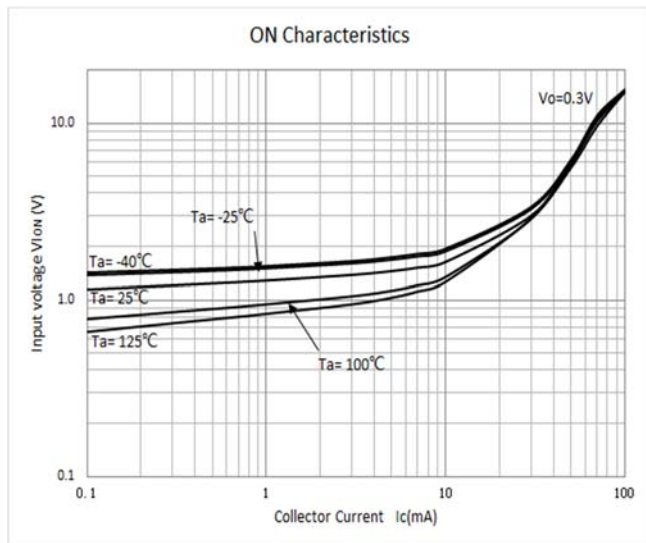
Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	833

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

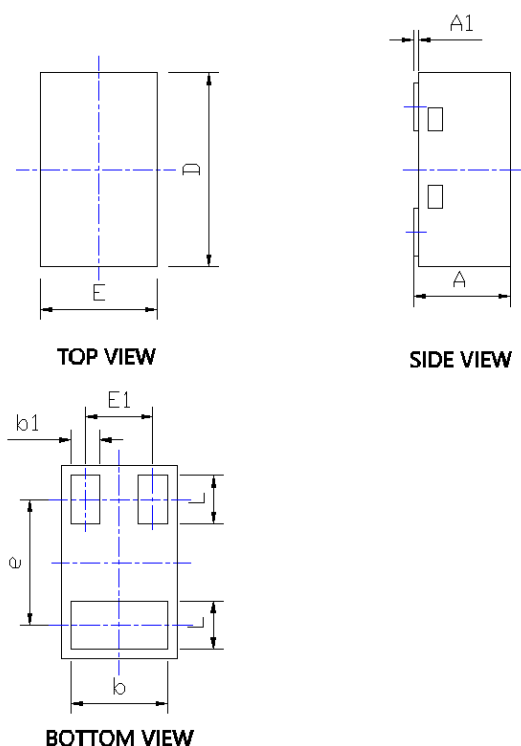
■ Ordering Information

Preferred P/N	Packing code	Unit weight(mg)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
DTC114EL3	F1	Approximate 0.9	10000	100000	400000	Tape & Reel

■ Typical of Characteristics

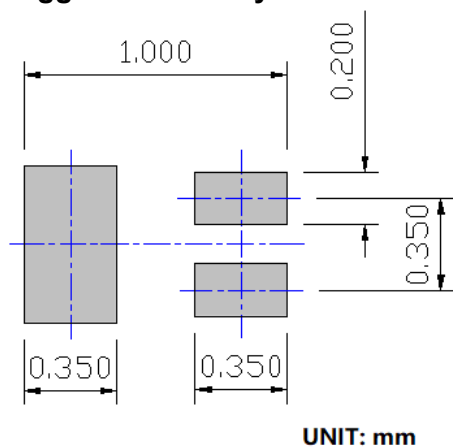


■ Outline Dimensions



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





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