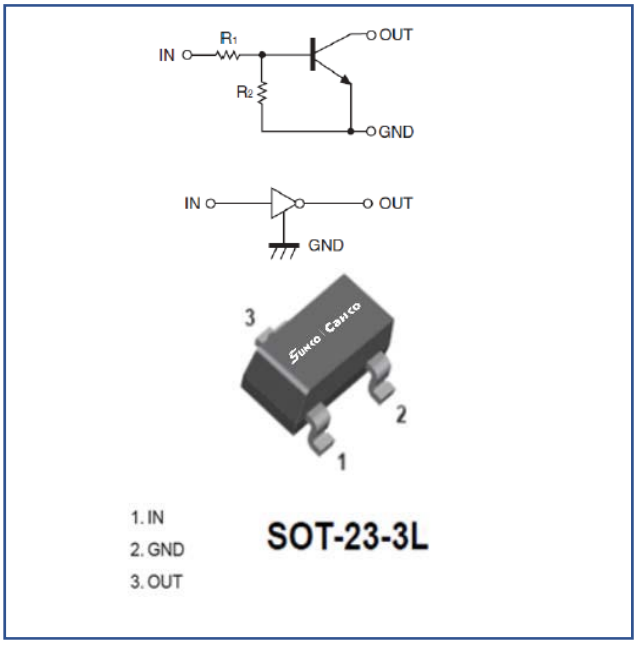
DTC114YKA

Digital Transistors (Built-in Resistors)



Features

- Moisture sensitivity level 1
- General switching and amplification
- Surface mount package ideally suited for automatic Insertion

Application

- Digital applications
- Switching loads

Mechanical data

- **Package**: SOT-23-3L
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ **Maximum Ratings** (T_a=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				64
Collector-base voltage	V_{CC}	V		50
Collector-emitter voltage	V_{IN}	V		-6 to +40
Collector current	I_O	mA		70
Power dissipation	P_D	mW		200
Operation junction temperature	T_J	℃		-55 to +150
Storage temperature	T_{STG}	℃		-55 to +150

■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Input voltage	$VI_{(off)}$	V	Vcc=5V,Ic=100uA	0.3		
	$VI_{(on)}$	V	Vo=0.3V,Ic=1mA			1.4
Output voltage	$Vo_{(on)}$	V	Io /Ii =5mA/0.25 mA			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	GI		V_o=5V, I_o =20mA	68		
Input resistance	R_1	kΩ		7	10	13
Resistance ratio	R_2/R_1			3.7	4.7	5.7
Transition frequency	fT	MHz	V_o=10V,I_O=5mA,f=100MHz		250	

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}$(1)	℃/W	625
Thermal resistance, junction-to-case	$R_{\theta J-C}$(1)	℃/W	500

Note:

（1）Device mounted on PCB，single-sided copper，with standard footprint.

■Characteristics

Fig 1：Input Voltage (On) Characteristics

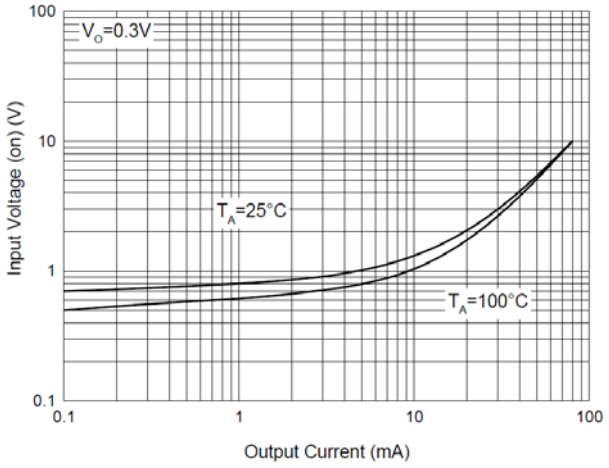


Fig 2：Input Current (Off) Characteristic

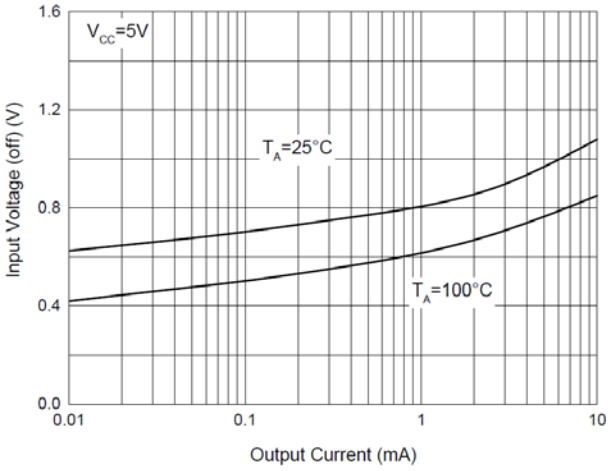


Fig 3：DC Current Gain Characteristics

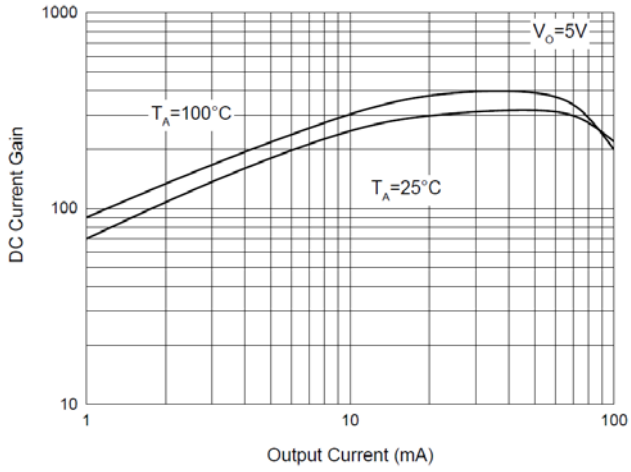


Fig 4：Output Voltage Characteristics

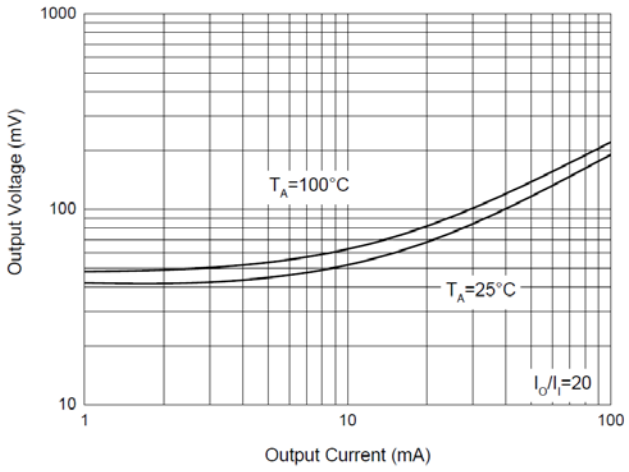
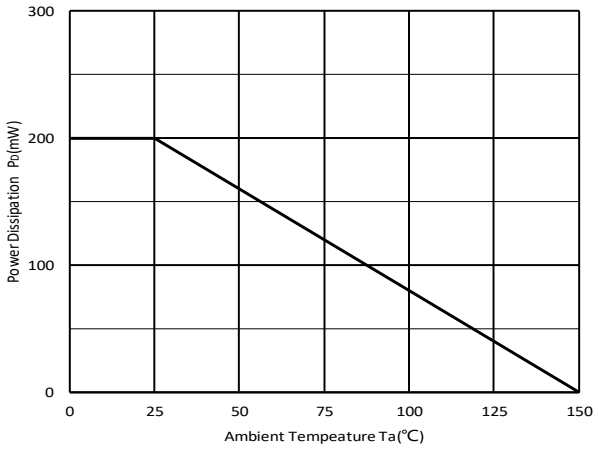


Fig 5：P_D-Ta Curve

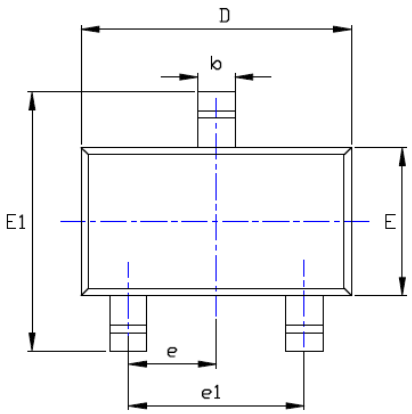


DTC114YKA

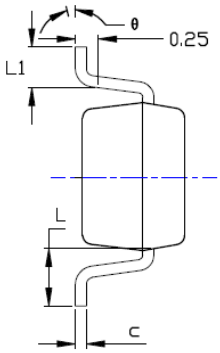
■Ordering Information

Prefered P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
DTC114YKA	F2	Approximate 0.014	3000	30000	120000	7” reel

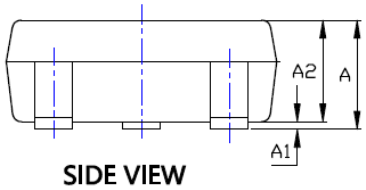
■ Outline Dimensions



TOP VIEW



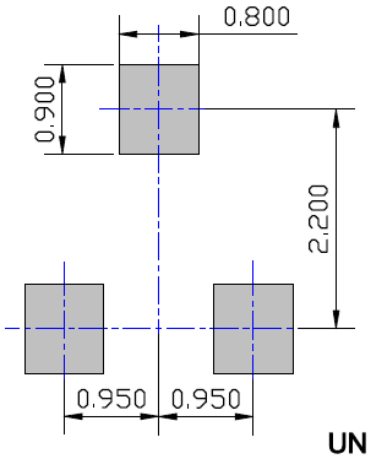
SIDE VIEW



SIDE VIEW

DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.041	0.049	1.050	1.250
A1	0.000	0.008	0.000	0.200
A2	0.041	0.045	1.050	1.150
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.111	0.119	2.820	3.020
E	0.059	0.067	1.500	1.700
E1	0.104	0.116	2.650	2.950
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.024REF		0.600REF	
L1	0.012	0.024	0.300	0.600
ø	0°	8°	0°	8°

■ Suggested Pad Layout



UNIT：mm

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