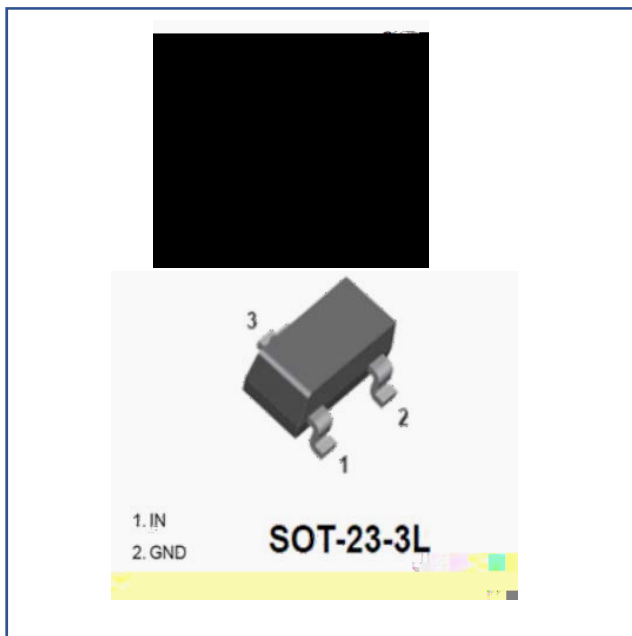


Digital Transistors (Built-in Resistors)



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** ($T_a=25$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Input voltage	$V_{I(off)}$	V	$V_{CC}=5V, I_c=100\mu A$	0.3		
	$V_{I(on)}$	V	$V_o=0.3V, I_c=1mA$			1.4
Output voltage	$V_{O(on)}$	V	$I_o / I_i = 5mA/0.25 mA$			0.3
Input current	I_i	nA	$V_i=5V$			0.88
Output current	$I_{o(off)}$	μA	$V_{CC}=50V, V_i=0$			0.5
DC current gain	GI		$V_o=5V, I_o=20mA$	68		
Input resistance	R_1	k		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	$R_{J-A}^{(1)}$	/W	625
Thermal resistance, junction-to-case	$R_{J-C}^{(1)}$	/W	500

Note:

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

Characteristics

Fig 1 Input Voltage (On) Characteristics

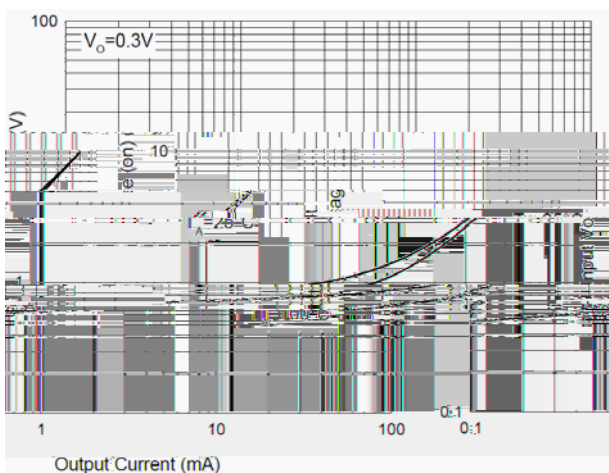


Fig 3 DC Current Gain Characteristics

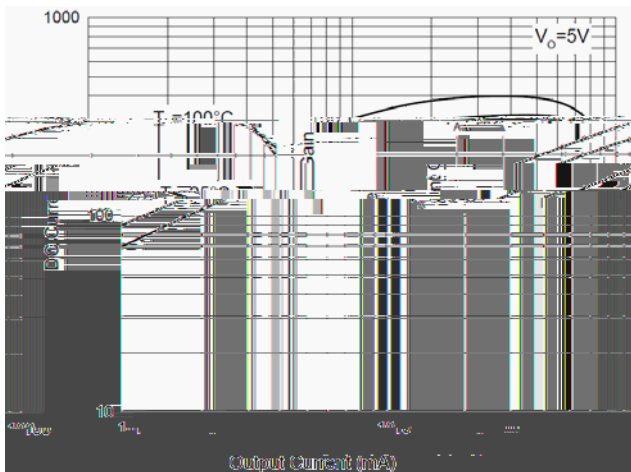


Fig 5 P_D-T_a Curve

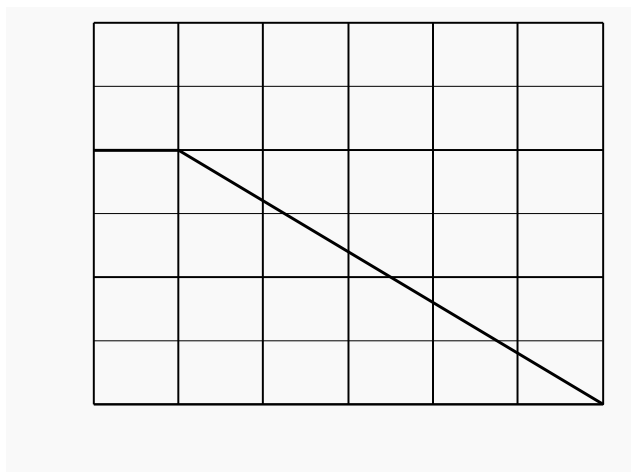


Fig 2 Input Current (Off) Characteristic

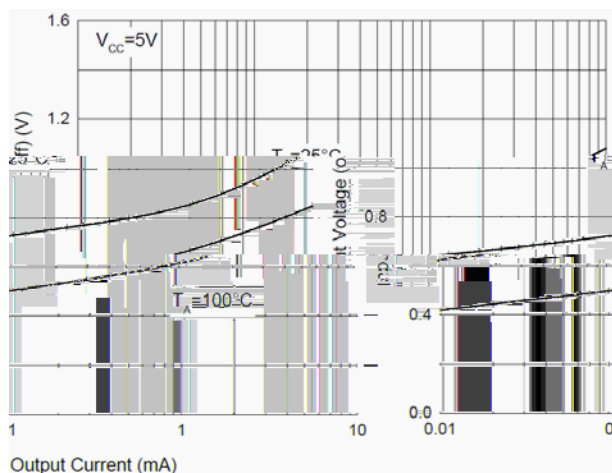
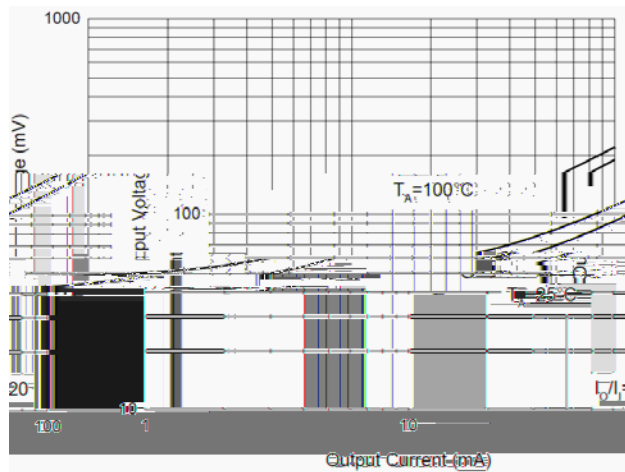


Fig 4 Output Voltage Characteristics





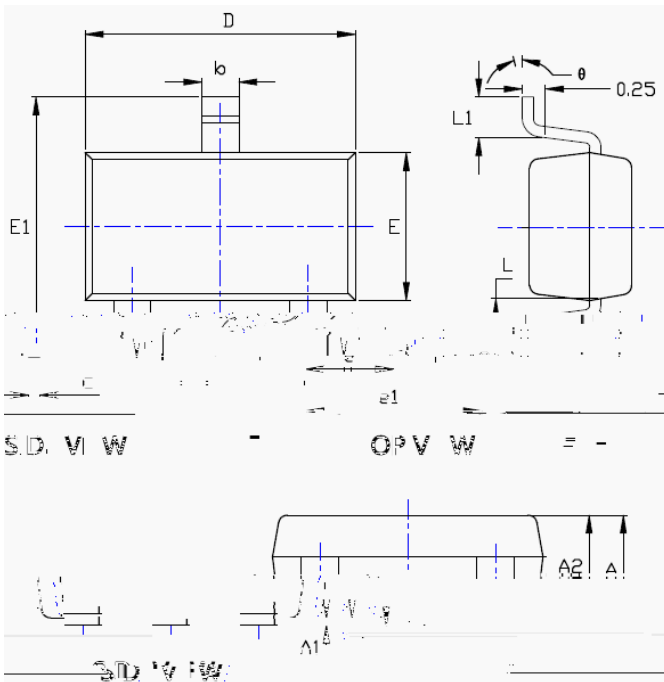
DTC114YKA

RoHS
COMPLIANT

Ordering Information

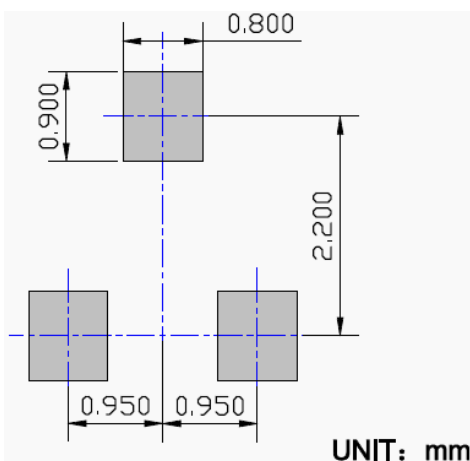
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
DTC114YKA	F2	Approximate 0.014	3000	30000	120000	7" reel

Outline Dimensions



SYMBOL	DIMENSIONS			
	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
C	1.500	1.700	38.1	43.0
E1	2.650	2.950	67.3	75.0
e	0.950 TYP		24.1	24.1
e1	1.800	2.000	45.7	50.8
L	0.600 REF		15.2 REF	15.2 REF
L1	0.300	0.500	7.6	12.7
∅	0°	8°	0°	8°

Suggested Pad Layout





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