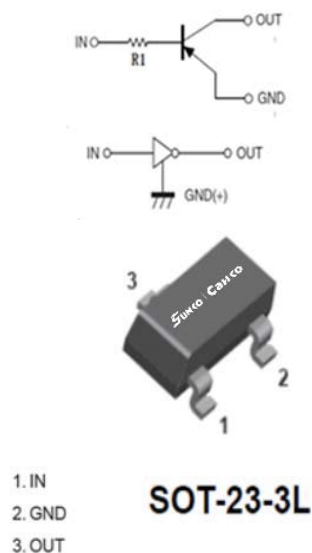


DTA143TKA

PNP Digital Transistors (Built-in Resistors)



Features

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

Application

- Signal amplification
- Switching circuit

Mechanical data

- **Package:** SOT-23-3L
- **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				93
Collector-base voltage	V_{CBO}	V	$I_C=-50\mu\text{A}$	-50
Collector-emitter voltage	V_{CEO}	V	$I_C=-1\text{mA}$	-50
Emitter-base voltage	V_{EBO}	V	$I_E=-50\mu\text{A}$	-5
Collector current	I_C	mA		-100
Power dissipation	P_D	mW		200
Junction temperature	T_J	$^{\circ}\text{C}$		-55 to +150
Storage temperature	T_{STG}	$^{\circ}\text{C}$		-55 to +150

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

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V _{(BR)CBO}	V	I _C =-50uA	-50		
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =-1mA	-50		
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =-50uA	-5		
Collector-base cut-off current	I _{CBO}	uA	V _{CB} =-50V			-0.5
Emitter-base cut-off current	I _{EBO}	uA	V _{EB} =-4V			-0.5
DC current gain	h _{FE}		V _{CE} =-5V, I _C =-1mA	100		600
Input resistance	R _i	kΩ		3.29	4.7	6.11
Collector-emitter saturation voltage	V _{CE(sat)}	V	I _C =-10mA, I _B =-0.5mA			-0.3
Transition frequency	f _T	MHz	V _{CE} =10V, I _E =-5mA, f=100MHz		250	

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	625
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/W	500

Note:

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

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■ Characteristics

Fig 1: Static Characteristics

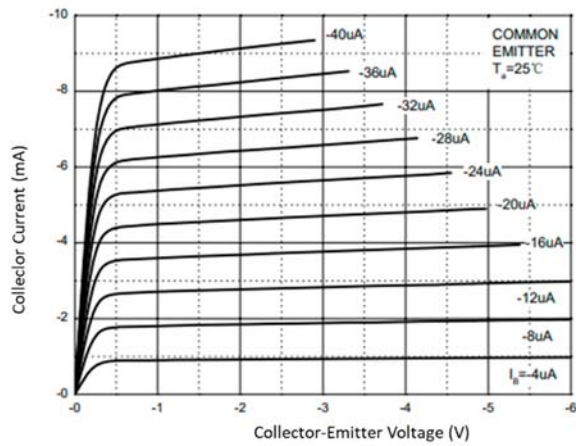


Fig 2: DC Current Gain Characteristics

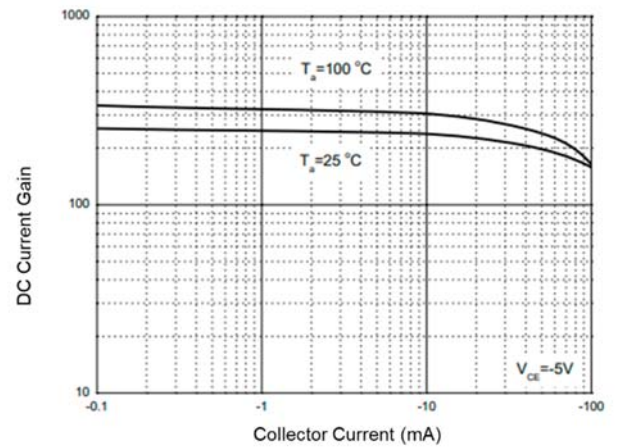


Fig 3: Output Voltage Characteristics

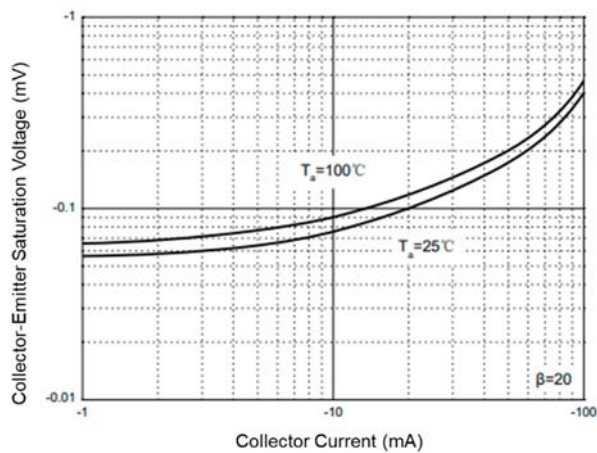
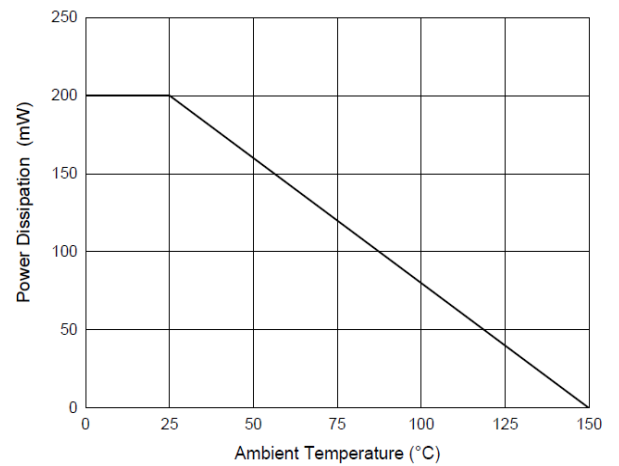


Fig 4: P_D - T_a Curve

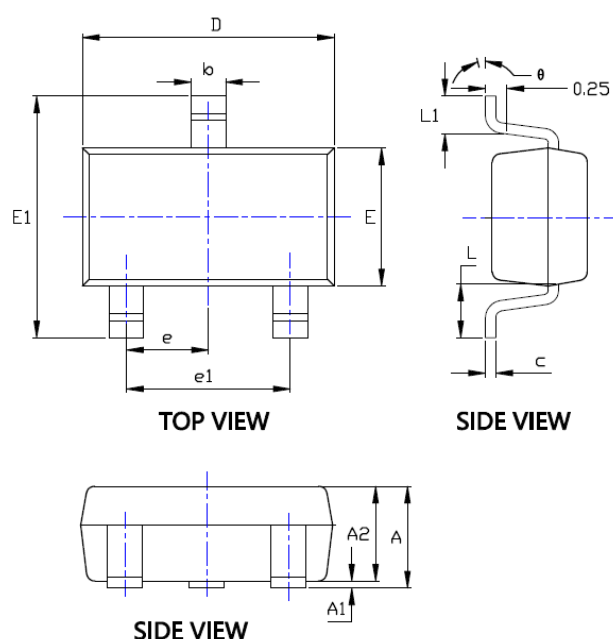


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■ Ordering Information

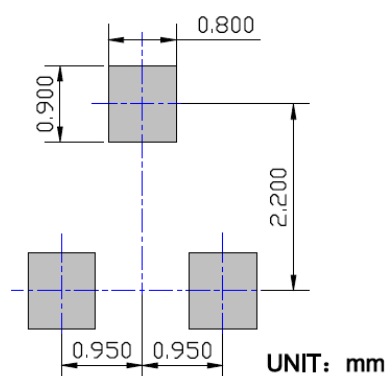
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
DTA143TKA	F2	Approximate 0.014	3000	30000	120000	7" reel

■ Outline Dimensions



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
φ	0°	8°	0°	8°

■ Suggested Pad Layout



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