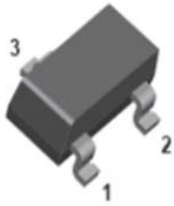
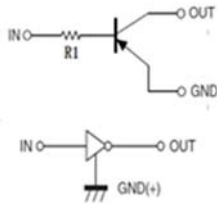


PNP Digital Transistors (Built-in Resistors)



1. IN
2. GND
3. OUT

SOT-23-3L

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°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				93
Collector-base voltage	V _{CB0}	V	I _C =-50uA	-50
Collector-emitter voltage	V _{CE0}	V	I _C =-1mA	-50
Emitter-base voltage	V _{EB0}	V	I _E =-50uA	-5
Collector current	I _C	mA		-100
Power dissipation	P _D	mW		200
Junction temperature	T _J	°C		-55 to +150
Storage temperature	T _{STG}	°C		-55 to +150

■ **Electrical Characteristics** ($T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	$I_C=-50\mu\text{A}$	-50		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	$I_C=-1\text{mA}$	-50		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	$I_E=-50\mu\text{A}$	-5		
Collector-base cut-off current	I_{CBO}	μA	$V_{CB}=-50\text{V}$			-0.5
Emitter-base cut-off current	I_{EBO}	μA	$V_{EB}=-4\text{V}$			-0.5
DC current gain	h_{FE}		$V_{CE}=-5\text{V}, I_C=-1\text{mA}$	100		600
Input resistance	R_1	$\text{k}\Omega$		3.29	4.7	6.11
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$			-0.3
Transition frequency	f_T	MHz	$V_{CE}=10\text{V}, I_E=-5\text{mA}, f=100\text{MHz}$		250	

■ **Thermal Characteristics**

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

Note:

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



■ Characteristics

Fig 1: Static Characteristics

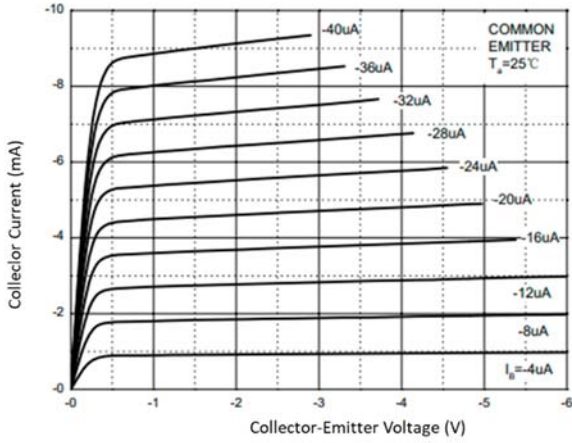


Fig 2: DC Current Gain Characteristics

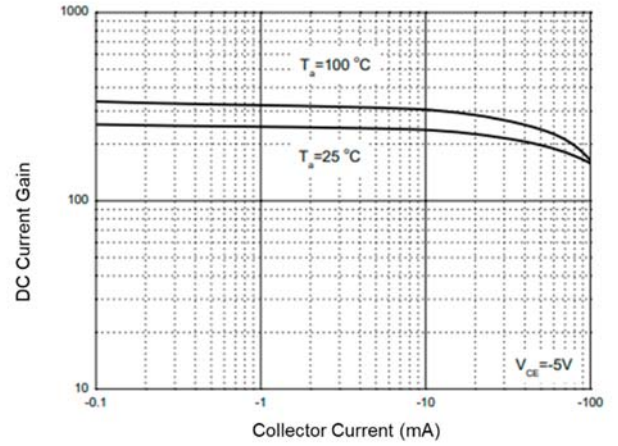


Fig 3: Output Voltage Characteristics

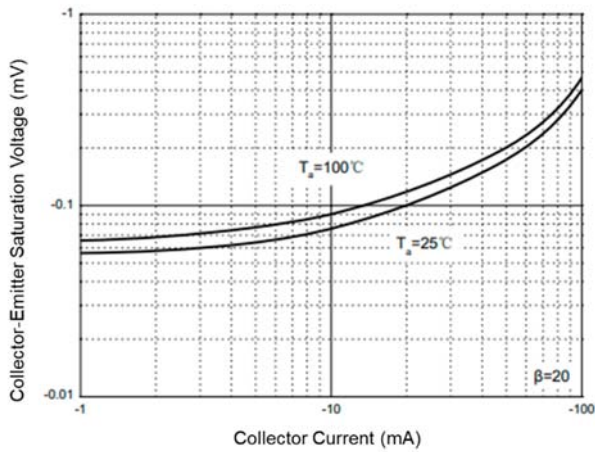
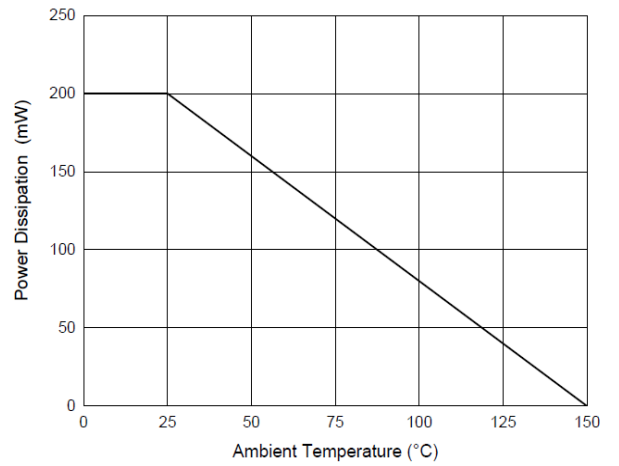


Fig 4: P_D-T_a Curve





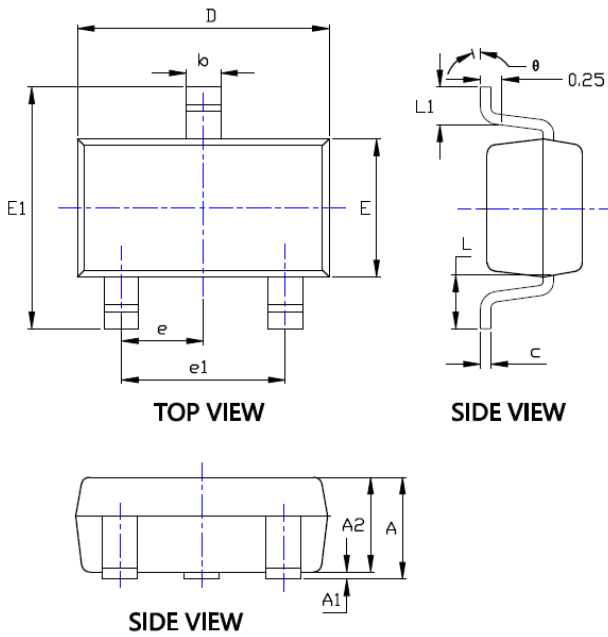
DTA143TKA

RoHS
COMPLIANT

Ordering Information

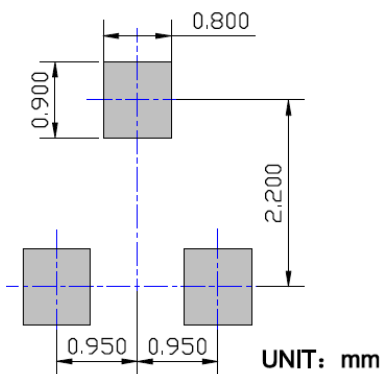
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
DTA143TKA	F2	Approximate 0.014	3000	30000	120000	7" reel

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
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





Disclaimer

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