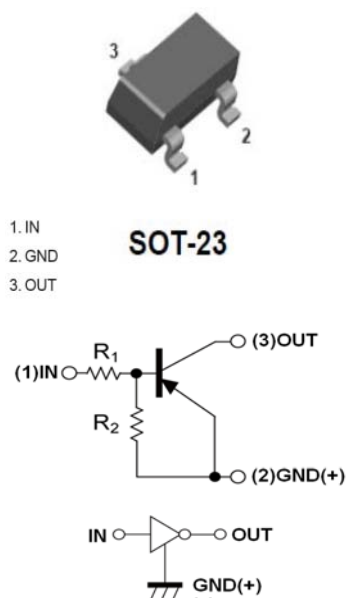


PNP Digital Transistors (Built-in Resistors)



Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

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

■ Maximum Ratings (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				33
Supply voltage	V_{CC}	V		-50
Input voltage	V_{IN}	V		-20 to +7
Output current	I_O	mA		-100
Power dissipation	P_D	mW		200
Junction temperature	T_J	°C		-55 to +150
Storage temperature	T_{STG}	°C		-55 to +150



DTA143XCA

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	-0.3		
	V _{I(on)}	V	V _O =-0.3V, I _O =-20mA			-2.5
Output voltage	V _{O(on)}	V	I _O / I _I = -10mA/-0.5 mA			-0.3
Input current	I _I	mA	V _I =-5V			-1.8
Output current	I _{O(off)}	uA	V _{CC} =-50V, V _I =0			-0.5
DC current gain	G _I		V _O =-5V, I _O = -10mA	30		
Input resistance	R ₁	kΩ		3.29	4.7	6.11
Resistance ratio	R ₂ /R ₁			1.7	2.1	2.6
Transition frequency	f _T	MHz	V _O =-10V, I _O =-5mA, f=100MHz		250	

■ Thermal Characteristics

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

Note:

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

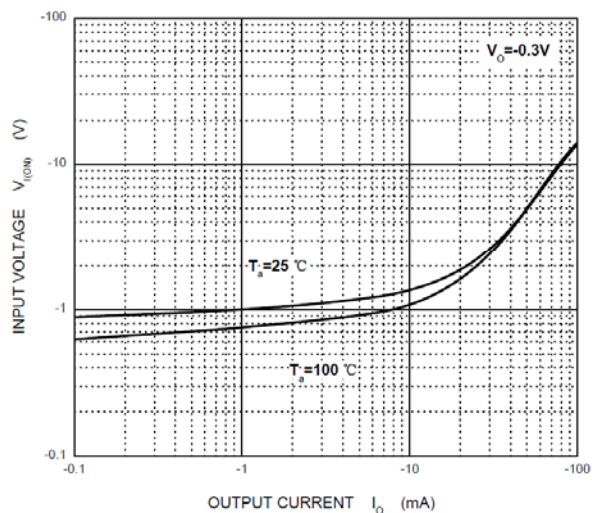
■ Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
DTA143XCA	F2	Approximate 0.009	3000	30000	120000	7" reel

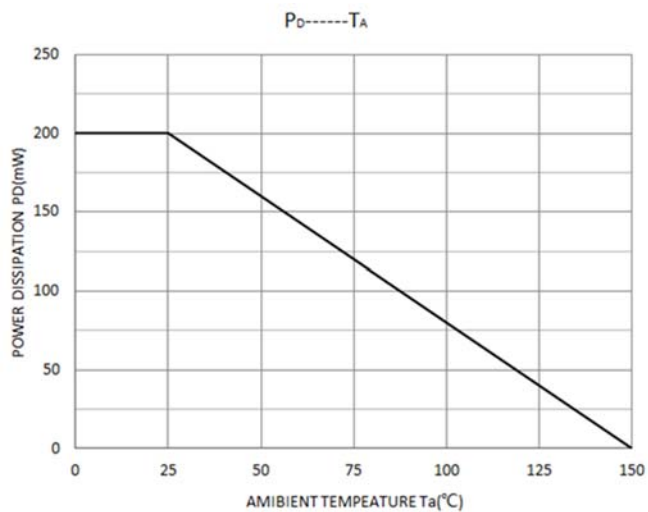
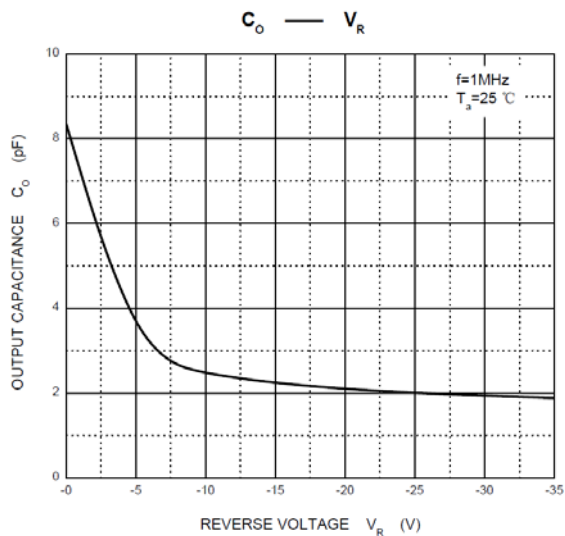
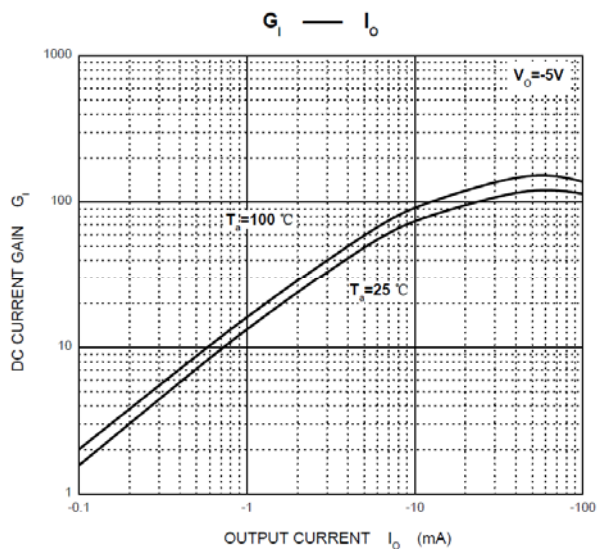
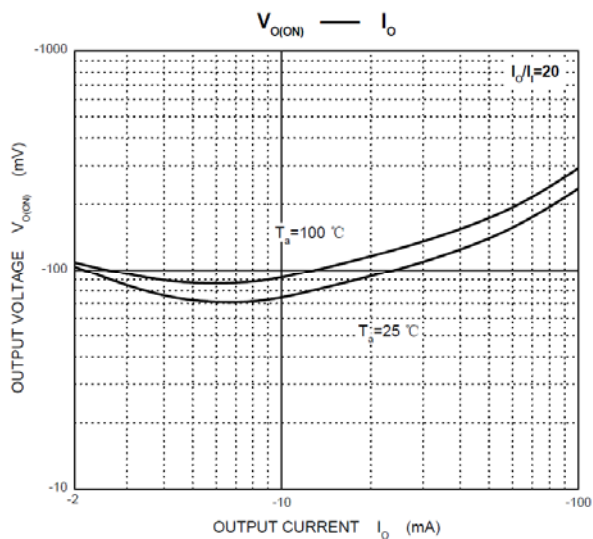
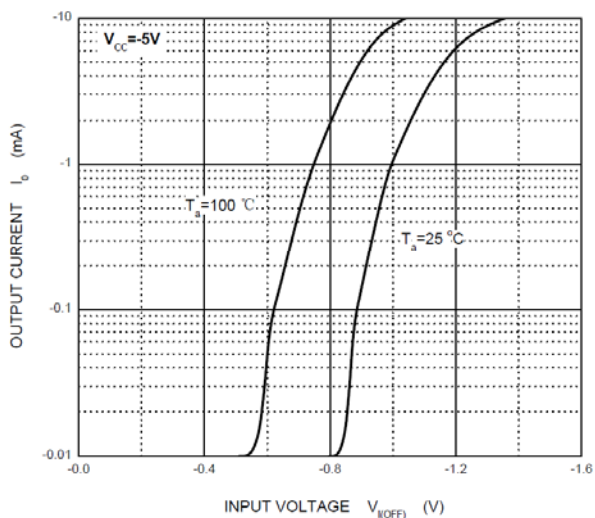


■ Characteristics

ON Characteristics

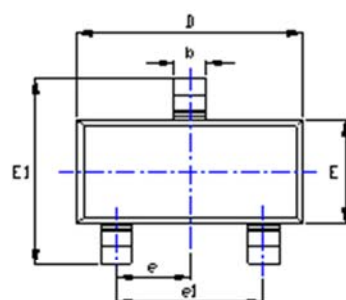


OFF Characteristics

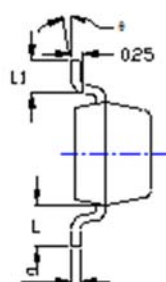




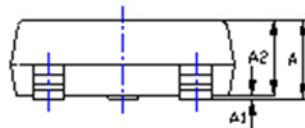
■ Outline Dimensions



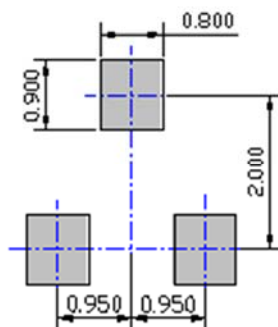
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

NOTE:

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

Note:

1. All dimensions are in millimeters (mm) unless otherwise specified.

[所有尺寸均以毫米为单位，除非另有说明]

2. General tolerances: $\pm 0.10\text{mm}$ unless otherwise specified.

[通用公差为 $\pm 0.10\text{mm}$ ，除非另有说明]

3. Dimensions and tolerances per ASME Y14.5M-2018.

[尺寸和公差遵循 ASME Y14.5M-2018 标准]

4. All dimensions shown are exclusive of burrs and gate residues. Burrs and gate vestiges shall not exceed 0.15 mm in maximum.

[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]

5. Dimension b does not include dambar protrusion of max 0.100 mm per side.

[尺寸b不包括单边最大0.100 MM的中筋凸出部分]

6. Dimensions D and E are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.

[D和E是塑封体的外部极限尺寸，不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了包封错位的最大尺寸]

7. Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.

[成型的管脚应为同一平面，共面性最大为0.1mm]

8. ★It is the key size.

[★ 标记为关键尺寸]



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