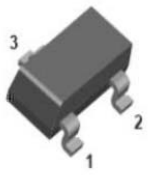
DTA123ECA

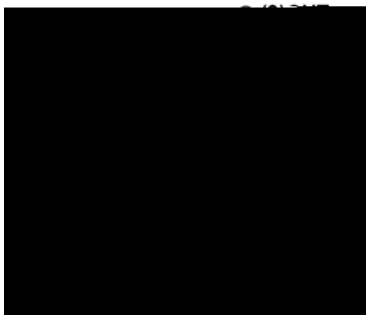
RoHS COMPLIANT

PNP Digital Transistors (Built-in Resistors)



1. IN
2. GND
3. OUT

SOT-23



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** (T_a=25 Unless otherwise specified)

Item	Symbol	Unit	Conditions	
	IN	V		-10 to + 5
Output current	ɗ	mA		-100
Power dissipation	P_D	mW		200
Junction temperature	ɹT			-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
Collector-emitter cut-off current	I_{CEO}	nA	V_{CE}=-50V, I_B=0			-500
Collector-base cut-off current	I_{CBO}	nA	V_{CB}=-50V, I_E=0			-100
Emitter-base cut-off current	I_{EBO}	uA	V_{EB}=-6V, I_C=0			-2500
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	I_C=-100μA, I_E=0	-50		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	I_C =-2mA, I_B=0	-50		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	I_E=-2mA, I_C=0	-6		
Collector-emitter saturation voltage	$V_{CE(SAT)}$	V	I_C /I_B =-10mA/-5mA			-0.25
DC current gain	h_{FE}		V_{CE}=-10V, Ic =-20mA	30		
Input resistance	R_1	kΩ		1.5	2.2	2.9
Resistance ratio	R_2/R_1			0.8	1	1.2
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	$R_{\theta J-A}$(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

■Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
DTA123ECA	F2	Approximate 0.009	3000	30000	120000	7” reel

■Characteristics

Fig. 1 - DC Current Gain Characteristics

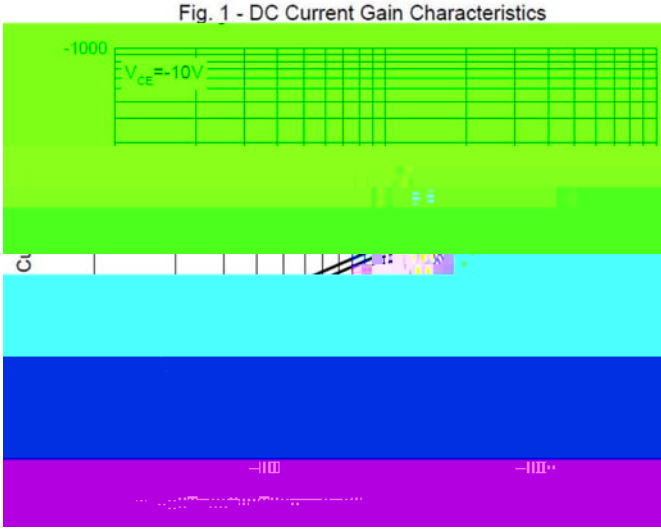


Fig. 2 - Collector-Emitter Saturation Voltage Characteristics

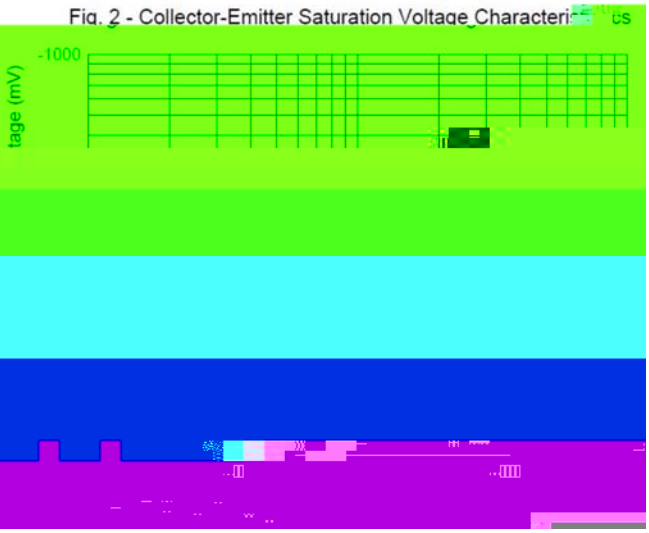
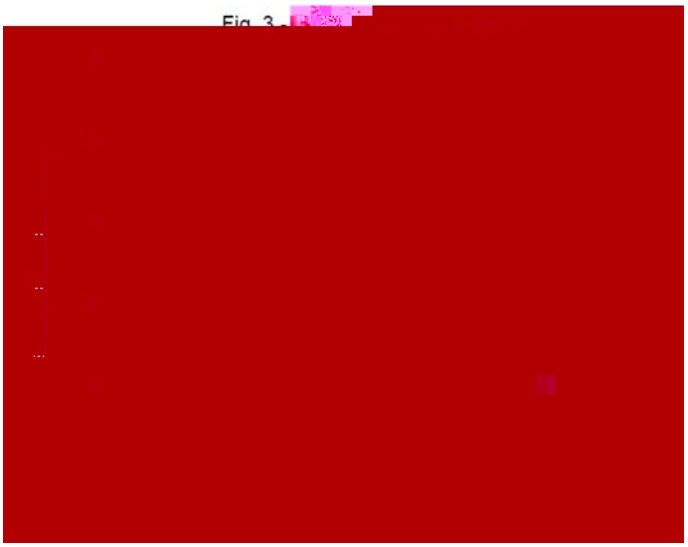


Fig. 3



■ Outline Dimensions

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: ±0.10mm unless otherwise specified.
[通用公差为±0.10mm，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 and tolerances conform to ASME Y14.5M-2018. Controlling dimension is millimeter.
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 or max 0.100 mm per side.
[尺寸b不包括单边最大0.100 MM的坝胶凸出部分]
6. These dimensions D and E are the overall extreme outer dimensions of the mold compound
ensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable dim
mold mismatch.
[D和E是塑封体的外部极限尺寸，不包括包封溢料、引线溢料、凸出部分以及毛刺，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 0.1016 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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