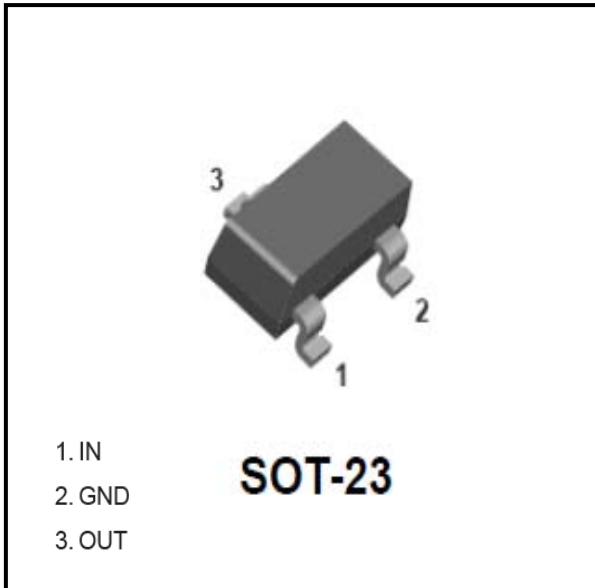


Digital Transistors (Built-in Resistors)



Features

- Epoxy meets UL-94 V-0 flammability rating
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- Surface mount package ideally Suited for Automatic

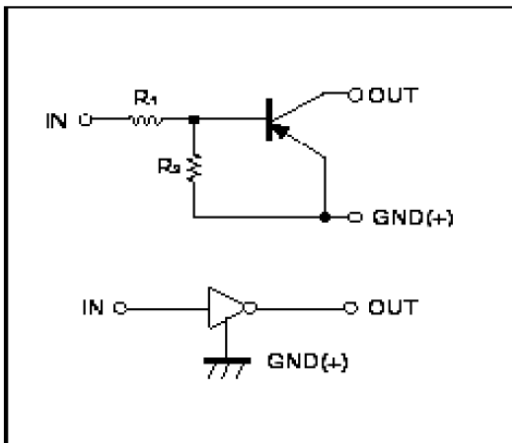
Insertion

- PNP

Mechanical Data

- **Package:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** F21

■Equivalent circuit



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

ITEM	SYMBOL	UNIT	CONDITIONS	VALUE
Supply Voltage	VCC	V		-50
Input Voltage	VIN	V		-10 to +5
Output Current	IO	mA		-100
Power Dissipation	PD	mW		200
Junction Temperature	Tj	°C		150
Storage Temperature	TSTG	°C		-55 to +150



DTA123ECA

■ Electrical Characteristics (Ta=25°C unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Collector-emitter cut-off current	ICEO	nA	VCE=-50V,IB=0	-	-	-500
Collector-base cut-off current	ICBO	nA	VCB=-50V,IE=0	-	-	-100
Emitter-base cut-off current	IEBO	uA	VEB=-6V,IC=0	-	-	-2500
Collector-base breakdown voltage	V _{(BR)CBO}	V	IC=-100μA,IE=0	-50	-	-
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	IC=-2mA,IB=0	-50	-	-
Emitter-base breakdown voltage	V _{(BR)EBO}	V	IE=-2mA,IC=0	-6	-	-
Collector-emitter saturation voltage	V _{CE(sat)}	V	IC=-10mA,IB=-5mA	-	-	-0.25
DC current gain	h _{FE}		VCE=-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

■ Ordering Information (Example)

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 (Typical)

Fig. 1 - DC Current Gain Characteristics

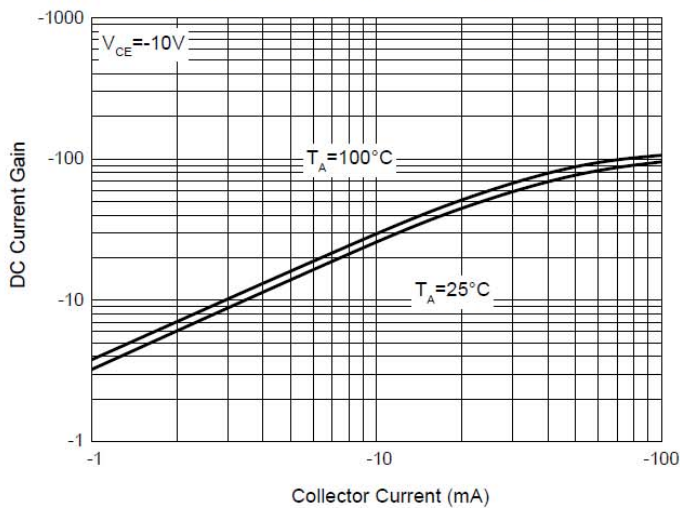


Fig. 2 - Collector-Emitter Saturation Voltage Characteristics

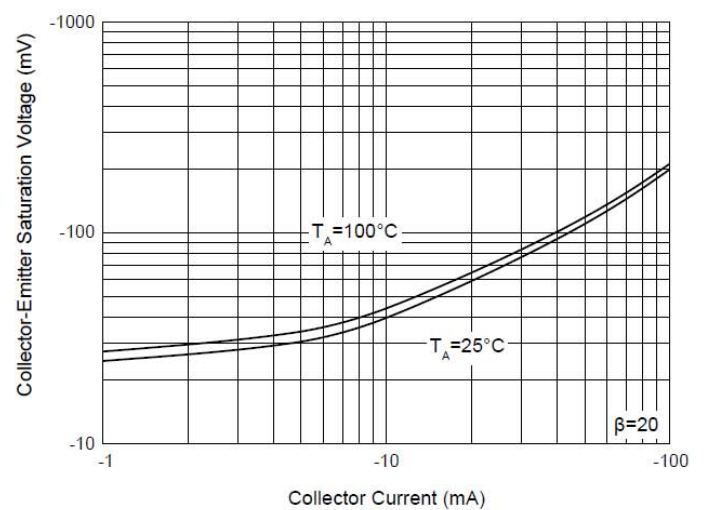
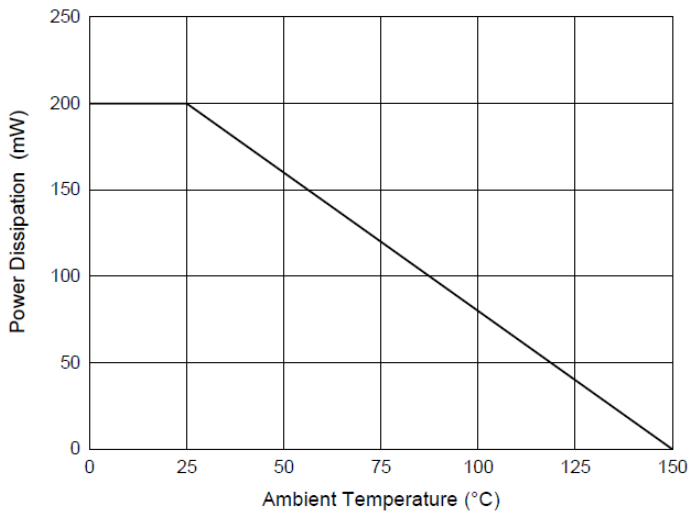
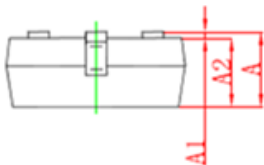
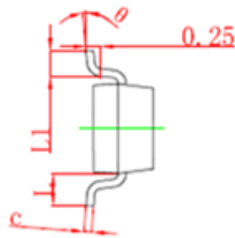
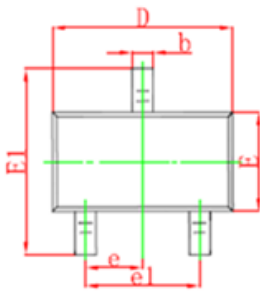


Fig. 3 - Power Derating Curve



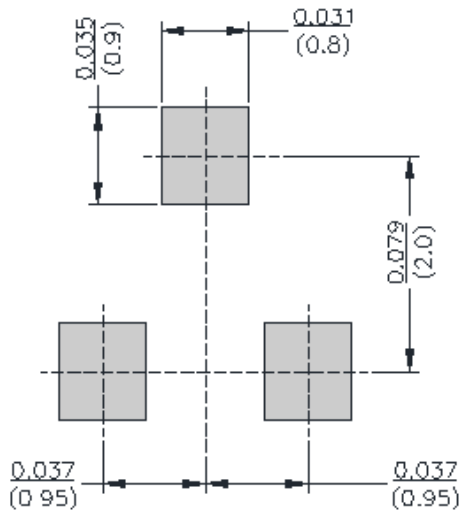
■ SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°



■SOT-23 Suggested Pad Layout





DTA123ECA

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