Digital Transistors (Built-in Resistors)

Features

Epoxy meets UL-94 V-0 flammability rating
Moisture Sensitivity Level 1
Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
Surface mount package ideally Suited for Automatic Insertion
NPN

Mechanical Data

Package: SOT-323
Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102

Marking: TL

Electrical Characteristics (Ta=25 unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Input voltage	$VI_{(off)}$	V	V_{CC}=5V,Ic=100uA	0.8		
	$VI_{(on)}$	V	V_0=0.3V,Ic=2mA			4
Output voltage	$Vo_{(on)}$	V	Io /Ii =10mA/0.5 mA			0.3
Input current	I_I	mA	V_I=5V			160
Output current	$I_{O(off)}$	uA	V_{CC}=50V, Vi=0			0.5
DC current gain	G_I		Vo=5V, Io =5mA	56		
Input resistance	R_1			33	47	61
Resistance ratio	R_2/R_1			0.37	0.47	0.57
Transition frequency	f_T	MHz	Vo=10V,I_O=5mA,f=100MHz		250	

Thermal Characteristics

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

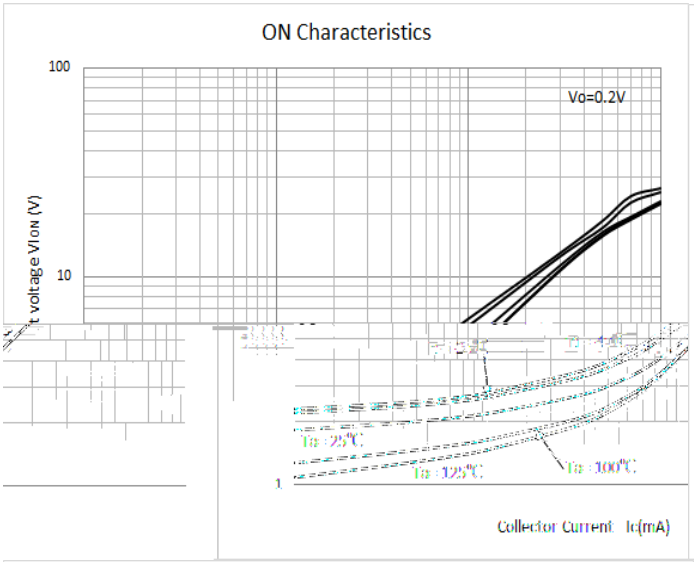
Note:

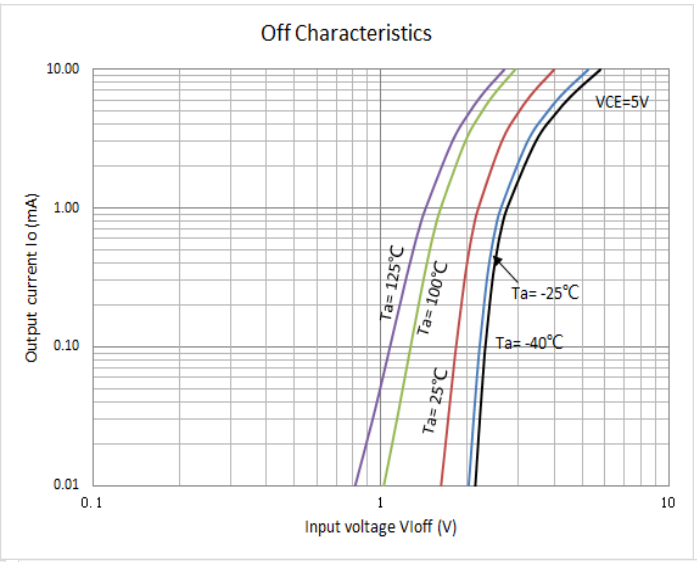
1 Device mounted on PCB, single-sided copper with standard footprint

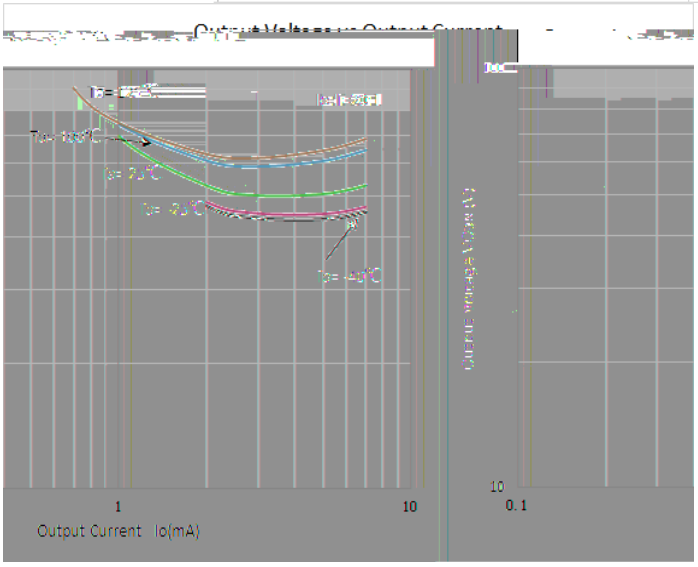
Ordering Information (Example)

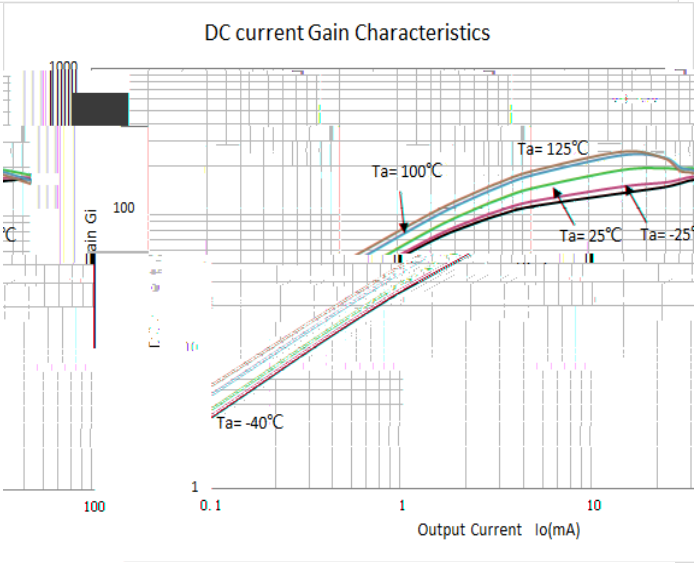
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
DTC144WUA	F2	Approximate 0.005	3000	30000	120000	7

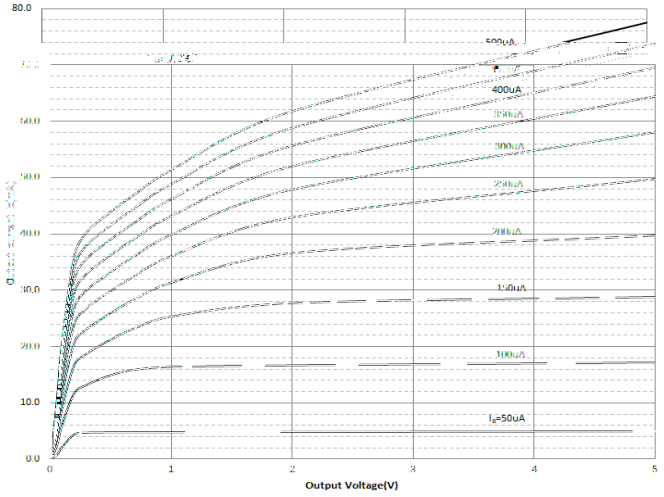
Characteristics (Typical)

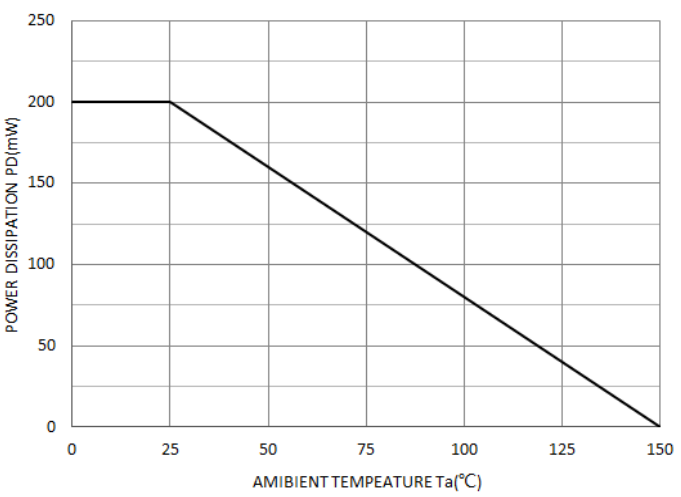




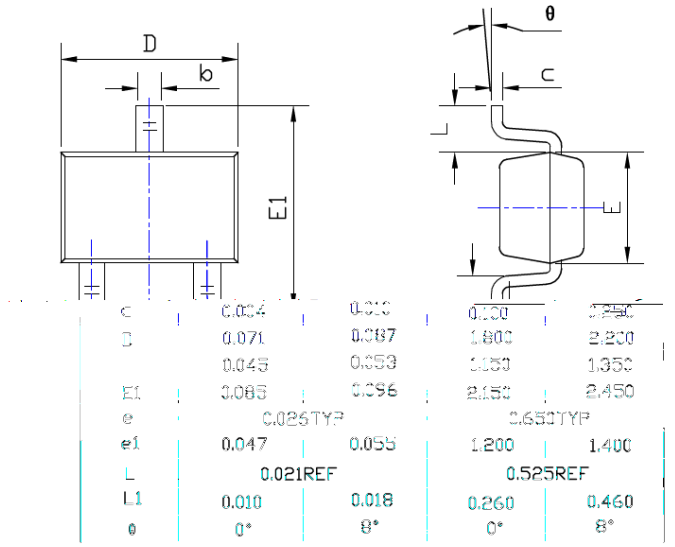








SOT-323 Package Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
θ	0°	8°	0°	8°

NOTE:
1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS

SIDE VIEW

UNIT：mm

SUGGESTED SOLDER PAD L

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]

ximum.
0.15mm]
).100 mm per side.
ions of the
d flash,
mold mismatch.
以及胶体毛刺，

Burrs and gate vestiges shall not exceed 0.15 mm in ma
[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
5.Dimension b does not include dambar protrusion of max (
[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 dimens
mold compound. These dimensions exclude mold flash, leac
protrusions and burrs but include the maximum allowable r
[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

th respect to one another within a maximum
iting plane.
为0.1mm]

7.Formed leads shall be planar wi
of 0.076 mm relative to the sec
[成型的管脚应为同一平面，共面性最大为
8. ★It is the key size.
[★ 标记为关键尺寸]