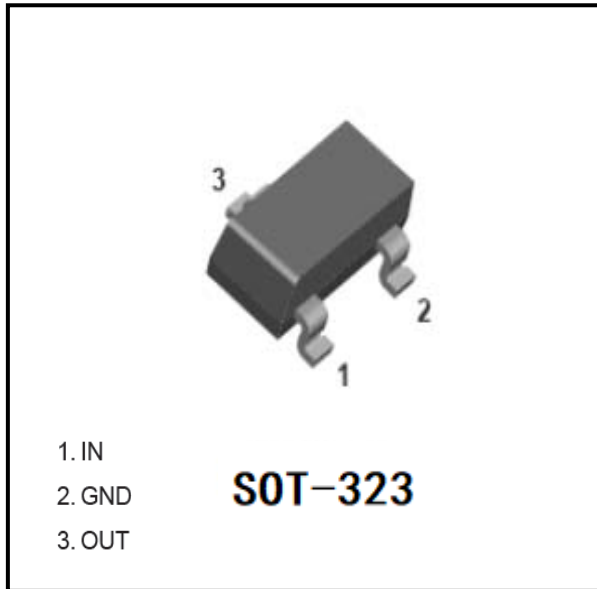


NPN Digital Transistors (Built-in Resistors)



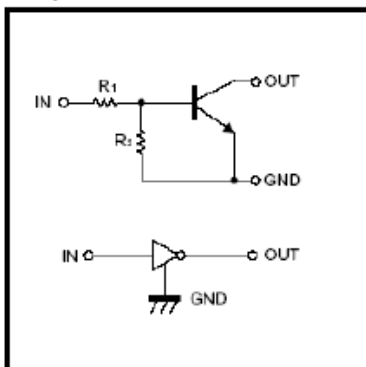
Features

- 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
- **Polarity:** Cathode line denotes the cathode end
- **Marking:** 84

■Equivalent circuit



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

Item	Symbol	Unit	Conditions	Value
Supply voltage	V_{CC}	V		50
Input voltage	V_{IN}	V		-10 to +30
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



DTC114WUA

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

Item	Symbol	Unit	Conditions	Min	Typ	Max
Input voltage	$V_{I(off)}$	V	$V_{CC}=5V, I_O=100\mu A$	0.8		
	$V_{I(on)}$	V	$V_O=0.3V, I_O=2mA$			3.0
Output voltage	$V_{O(on)}$	V	$I_O/I_I=10mA/0.5mA$			0.3
Input current	I_I	mA	$V_I=5V$			0.88
Output current	$I_{O(off)}$	μA	$V_{CC}=50V, V_I=0$			0.5
DC current gain	G_I		$V_O=5V, I_O=10mA$	24		
Input resistance	R_1	$k\Omega$		7	10	13
Resistance ratio	R_2/R_1			0.37	0.47	0.57
Transition frequency	f_T	MHz	$V_O=10V, I_O=5mA, f=100MHz$		250	

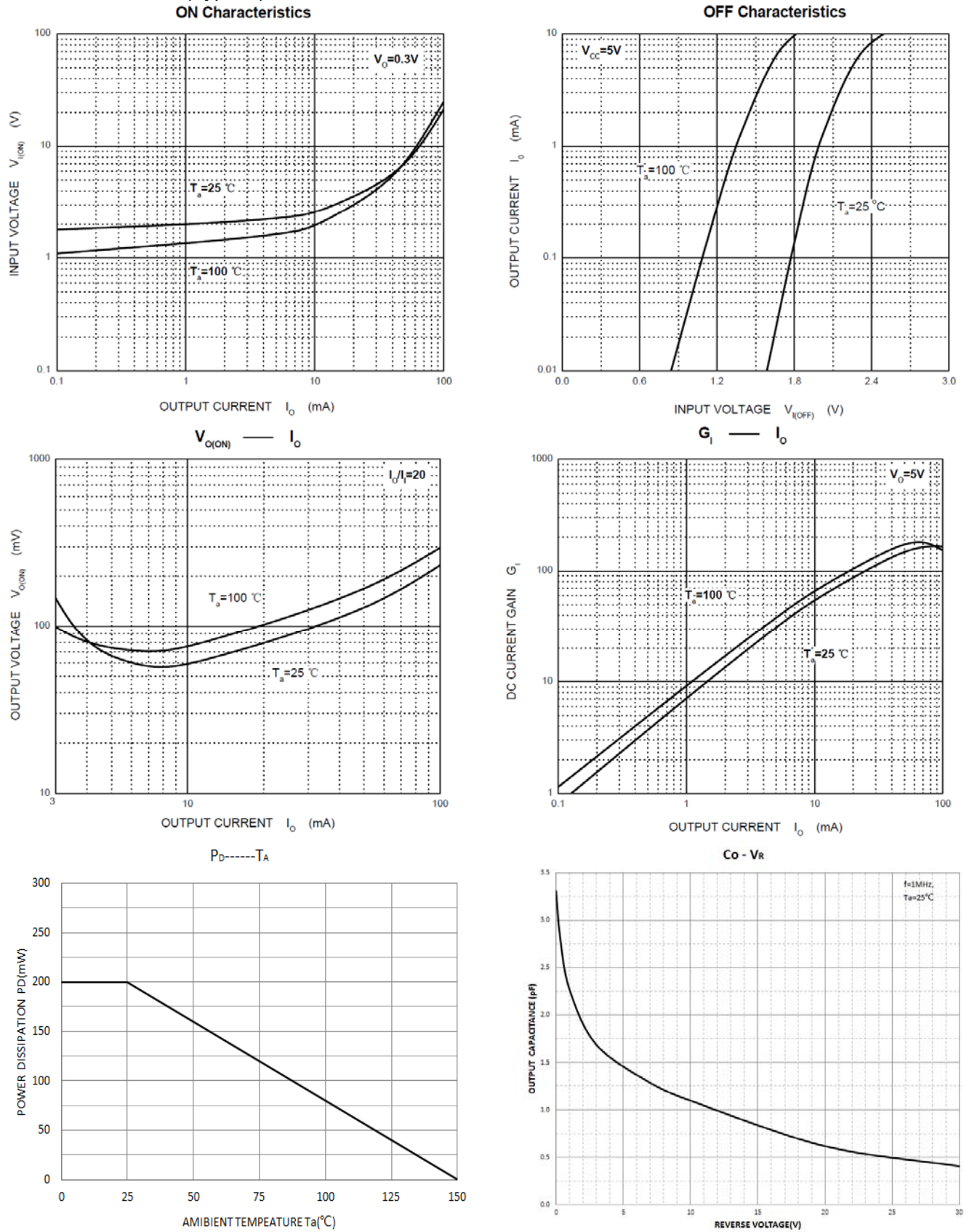
■ Ordering Information (Example)

Preferred P/N	Packing Code	Unit Weight(G)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
DTC114WUA	F2	Approximate 0.005	3000	30000	120000	7" reel



DTC114WUA

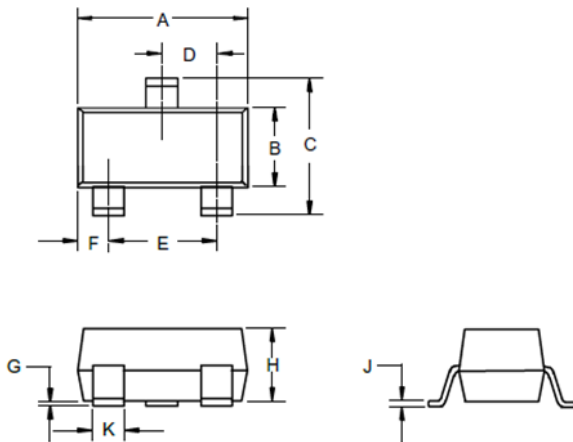
■ Characteristics (Typical)





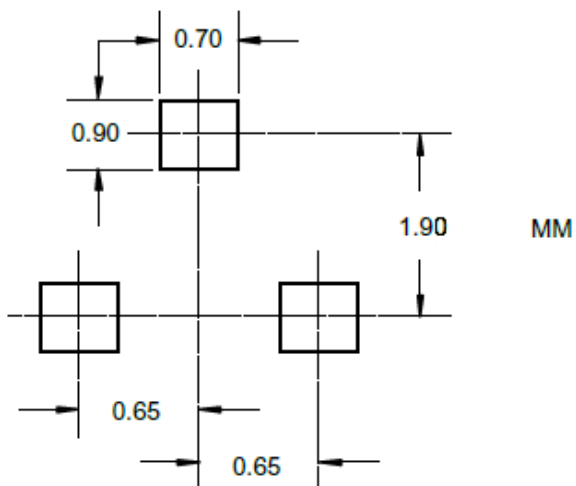
DTC114WUA

■ SOT-323 Package Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026Nominal		0.65Nominal		
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.039	0.90	1.00	
J	0.004	0.010	0.10	0.250	
K	0.006	0.016	0.15	0.40	

■ SOT-323 Soldering Footprint





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