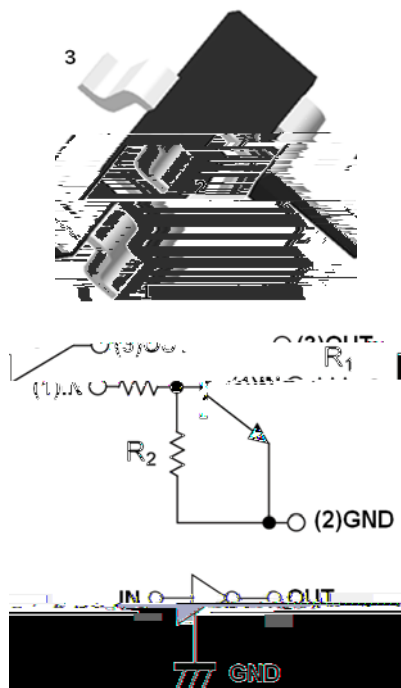


NPN Digital Transistors (Built-in Resistors)



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-523

Terminals Tin plated leads, solderable per J-STD-002 and JESD22-B102

Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				84
Supply voltage	V_{CC}	V		50
Input voltage	V_{IN}	V		-10 to +30
Output current	I_o	mA	DnW	100 e tl 150 btlrN
Junction temperature	T_J			-55 to +150
Storage temperature	T_{STG}			-55 to +150



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Electrical Characteristics (T_a=25 Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Input voltage	V _{I(off)}	V	V _{CC} =5V, I _O =100uA	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/0.5 mA			0.3
Input current	I _I	mA	V _I =5V			0.88
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	24		
Input resistance	R ₁	kΩ		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	

Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{dJ-A} ⁽¹⁾	/W	833
Thermal resistance, junction-to-case	R _{dJ-C} ⁽¹⁾	/W	666

Note:

- 1 Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 25.4mm*25.4mm copper pad areas

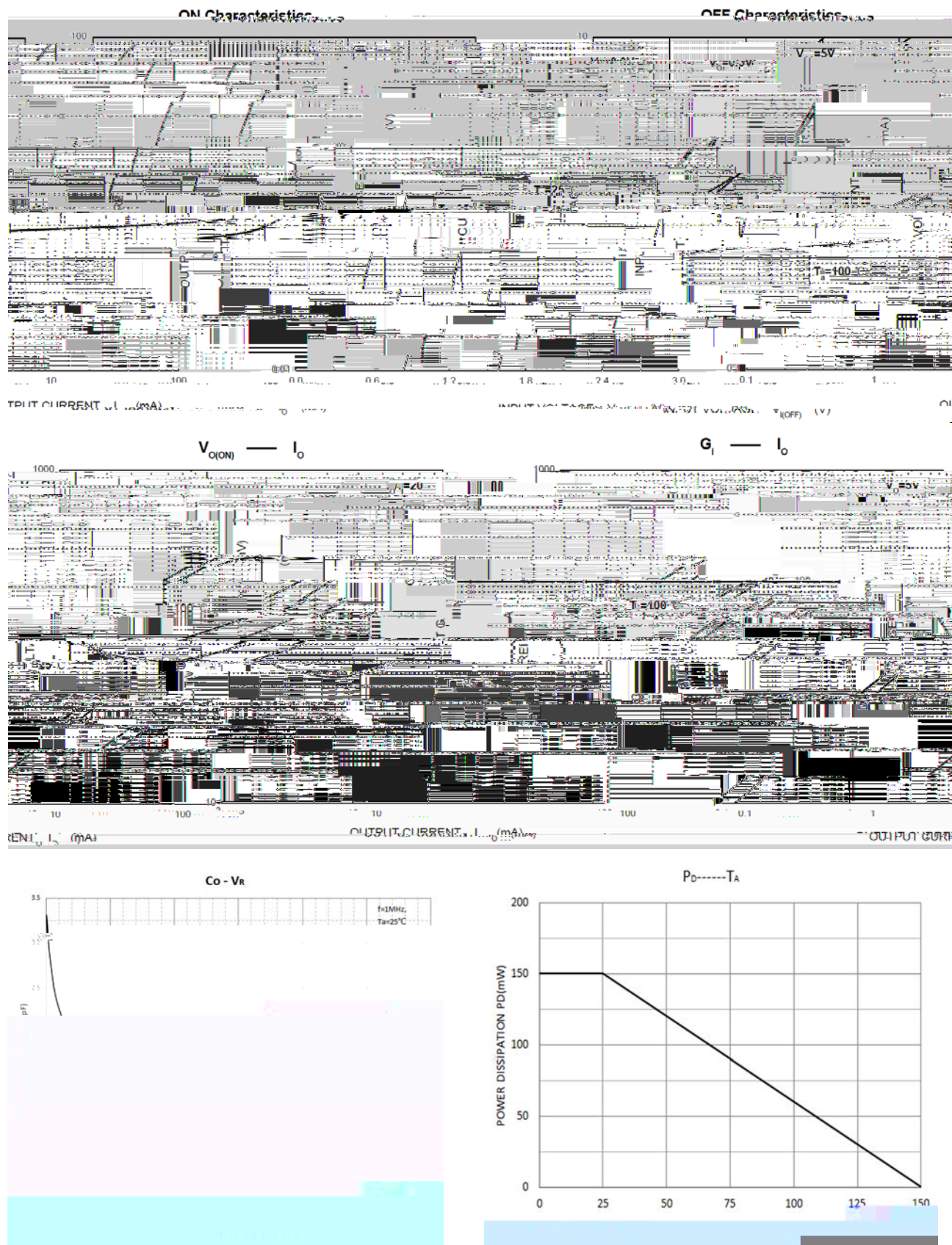
Ordering Information

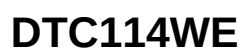
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
DTC114WE	F2	Approximate 0.0027	3000	30000	120000	7" reel



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Characteristics





Technical drawing of a mechanical part, showing a top view, a side view, and a dimensions table.

Top View: Shows the part with dimensions A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z. The part is labeled "TOP VIEW".

Side View: Shows the part from the side, with dimensions A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z. The part is labeled "SIDE VIEW".

Dimensions Table:

	MIN	MAX	MIN	MAX
C	0.057	0.069	1.450	1.750
D	0.020TYP	0.500TYP		
E	0.005	0.040	0.055	0.120
F	0.040	0.018	0.238	0.450
G	0.000	0.004	0.000	0.004
H	0.000	0.002	0.000	0.002
I	0.000	0.002	0.000	0.002
J	0.000	0.002	0.000	0.002
K	0.000	0.002	0.000	0.002
L	0.000	0.002	0.000	0.002
M	0.000	0.002	0.000	0.002
N	0.000	0.002	0.000	0.002
O	0.000	0.002	0.000	0.002
P	0.000	0.002	0.000	0.002
Q	0.000	0.002	0.000	0.002
R	0.000	0.002	0.000	0.002
S	0.000	0.002	0.000	0.002
T	0.000	0.002	0.000	0.002
U	0.000	0.002	0.000	0.002
V	0.000	0.002	0.000	0.002
W	0.000	0.002	0.000	0.002
X	0.000	0.002	0.000	0.002
Y	0.000	0.002	0.000	0.002
Z	0.000	0.002	0.000	0.002

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)

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