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## NPN Digital Transistors (Built-in Resistors)

### Features

- Moisture Sensitivity Level 1
- Surface mount package ideally Suited for Automatic Insertion
- Epoxy meets UL-94 V-0 flammability rating, halogen-free

**Electrical Characteristics** ( $T_a=25$  unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Input voltage	$V_{I(off)}$	V	$V_{CC}=5V, I_c=100\mu A$	0.8		
	$V_{I(on)}$	V	$V_o=0.3V, I_c=2mA$			4
Output voltage	$V_{O(on)}$	V	$I_o / I_i = 10mA / 0.5 mA$			0.3
Input current	$I_i$	mA	$V_i=5V$			160
Output current	$I_{o(off)}$	$\mu A$	$V_{CC}=50V, V_i=0$			0.5
DC current gain	$G_i$		$V_o=5V, I_o = 5mA$	56		
Input resistance	$R_1$	k		33	47	61
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)

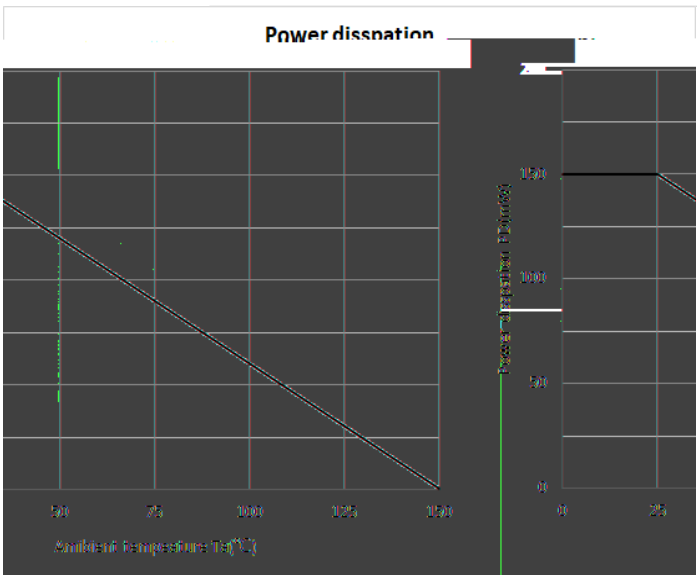
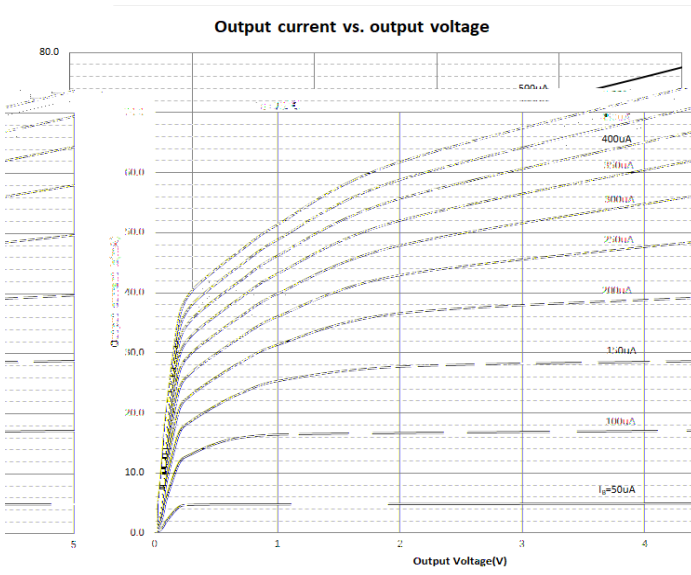
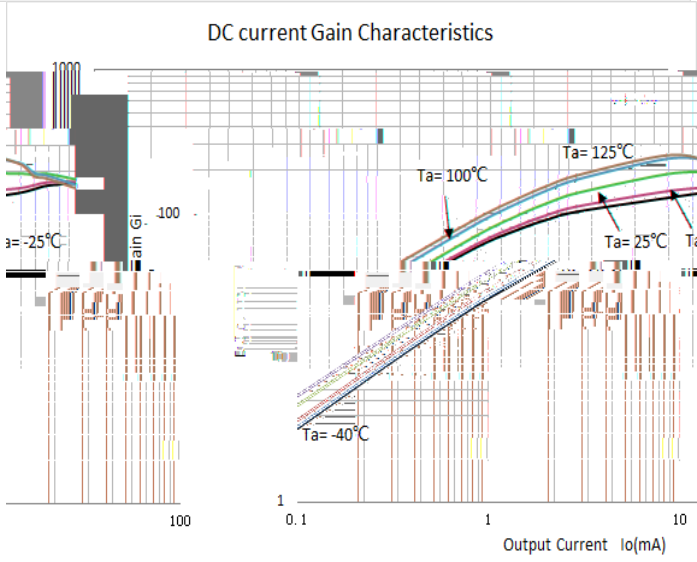
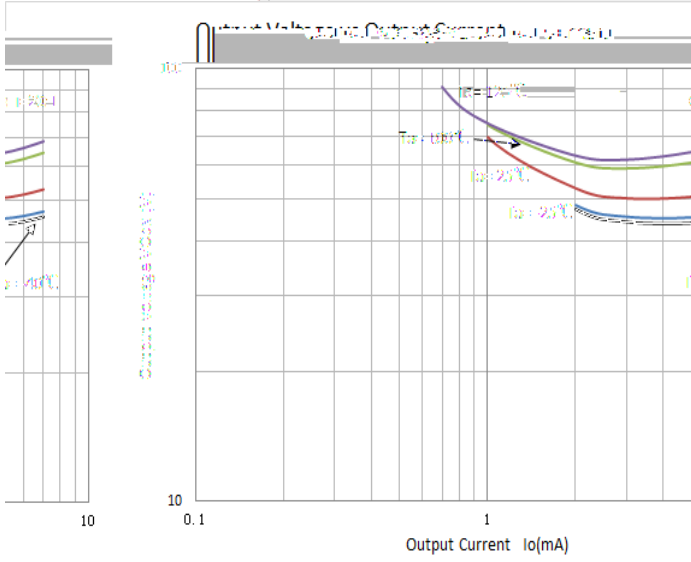
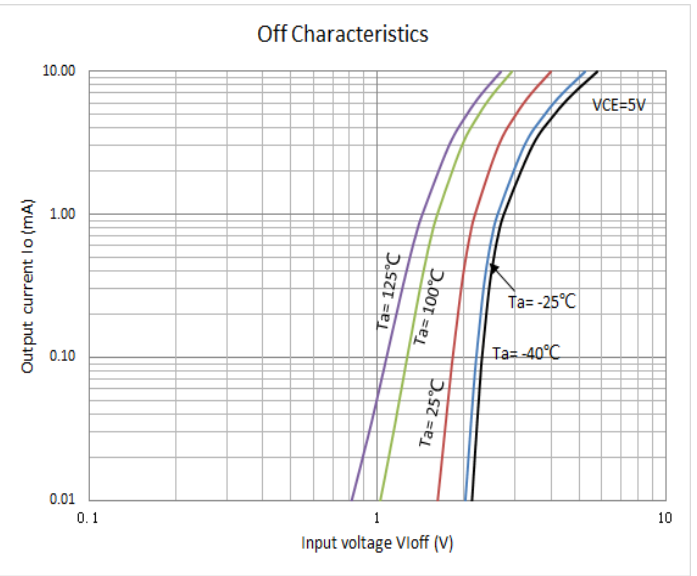
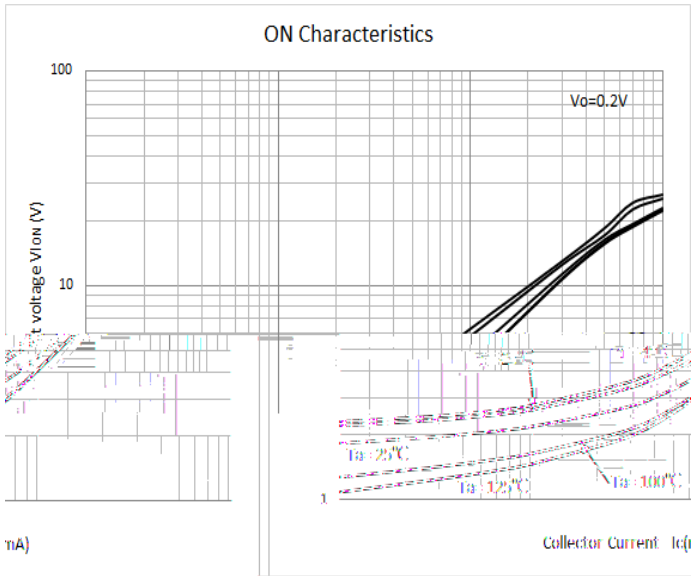
Preferred P/N	Packing code	Unit Weight(G)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
DTC144WE	F2	Approximate 0.0027	3000	30000	120000	7" reel

**Thermal Characteristics**

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{J-A}^{(1)}$	/W	833

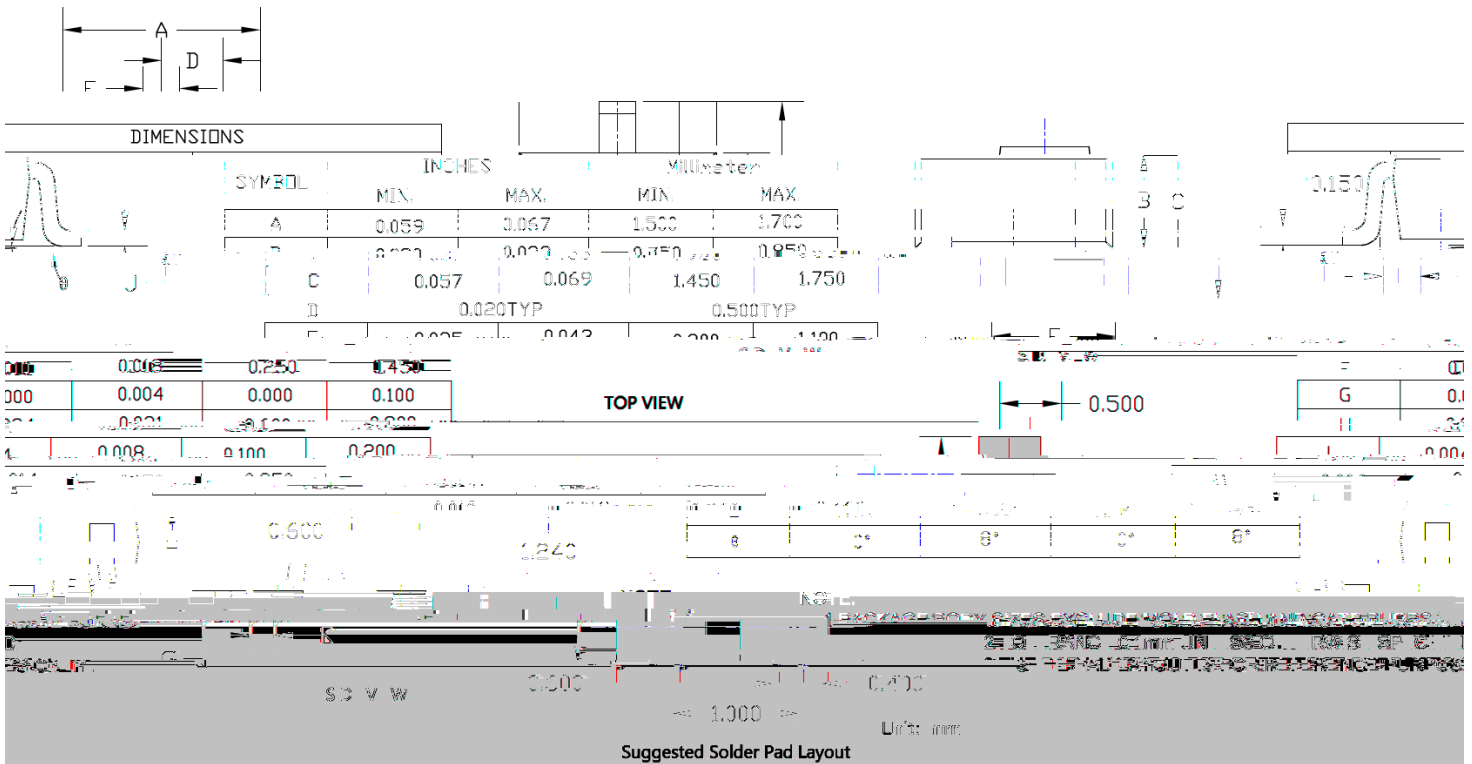


Characteristics (Typical)





SOT-523 Package Outline Dimensions



Note:

- 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]
- General tolerances:  $\pm 0.10\text{mm}$  unless otherwise specified.  
[通用公差为  $\pm 0.10\text{mm}$ , 除非另有说明]
- Dimensions and tolerances per ASME Y14.5M-2018.  
[尺寸和公差遵循 ASME Y14.5M-2018]

Wave residues, burrs and gate vestiges shall not exceed 0.15 mm in maximum.  
[所有尺寸均不包括毛刺和波峰残留, 毛刺与波峰残留的尺寸最大不得超过 0.15mm]

5.Dimension b does not include dambar protrusion of max 0.100 mm per side.  
[尺寸b不包括每侧最大0.100mm的挡墙突起]



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