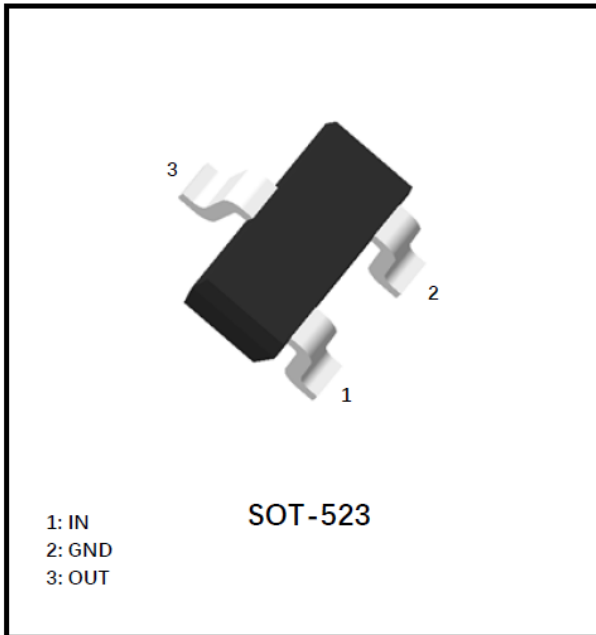


## Digital Transistors (Built-in Resistors)



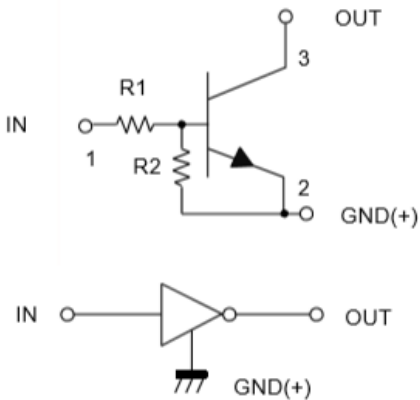
### Features

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

### Mechanical Data

- **Package:** SOT-523
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** E23

### 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		-5 to +30
Output Current	$I_o$	mA		100
Power Dissipation	$P_D$	mW		150
Junction Temperature	$T_J$	°C		150
Storage Temperature	$T_{STG}$	°C		-55 to +150



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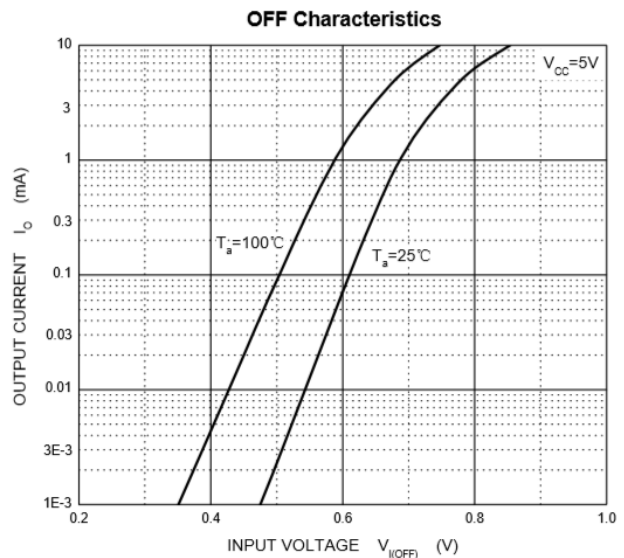
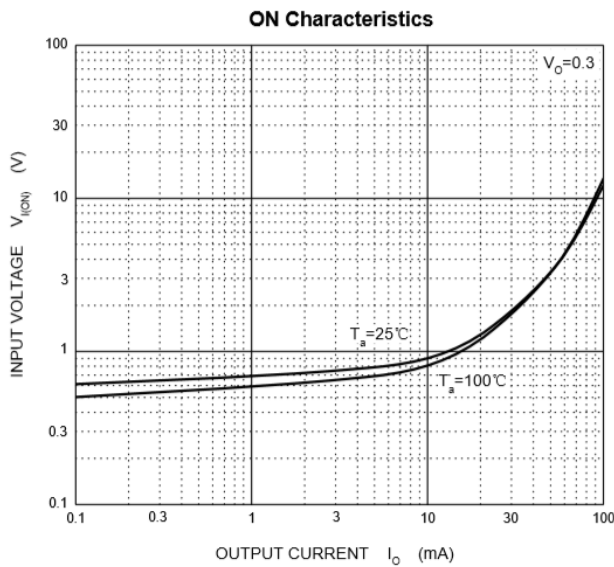
## ■ Electrical Characteristics (Ta=25°C unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Input voltage	$V_{I(off)}$	V	$V_{CC}=5V, I_c=100\mu A$ $V_o=0.3V, I_c=5mA$	0.5		
	$V_{I(on)}$	V				
Output voltage	$V_{O(on)}$	V	$I_o / I_i = 10mA / 0.5mA$			0.3
Input current	$I_i$	mA	$V_i=5V$			1.8
Output current	$I_{O(off)}$	$\mu A$	$V_{CC}=50V, V_i=0$			0.5
DC current gain	$G_i$		$V_o=5V, I_o = 10mA$	80		
Input resistance	$R_i$	k $\Omega$		3.29	4.7	6.11
Resistance ratio	$R_2/R_1$			8	10	12
Transition frequency	$f_T$	MHz	$V_o=10V, I_o=-5mA$		250	

## ■ Ordering Information (Example)

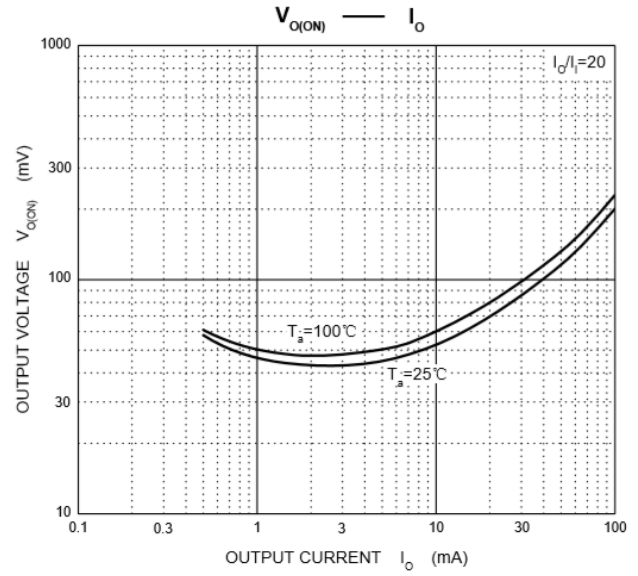
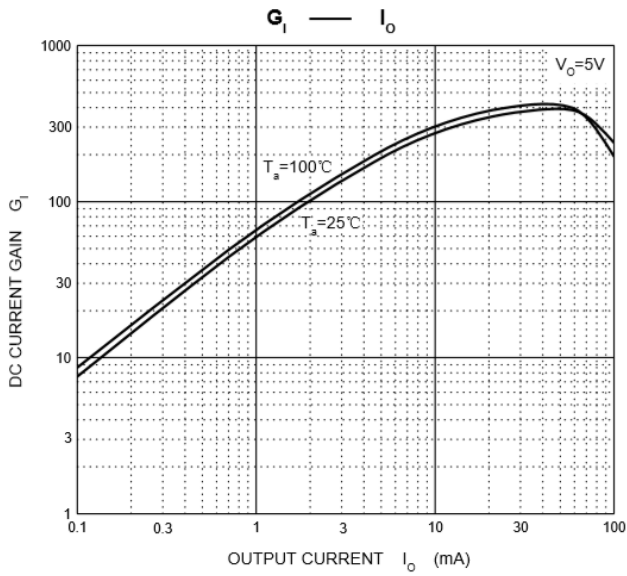
Preferred P/N	Packing Code	Unit Weight(G)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
DTC143ZE	F2	Approximate 0.0027	3000	30000	120000	7" reel

## ■ Characteristics (Typical)

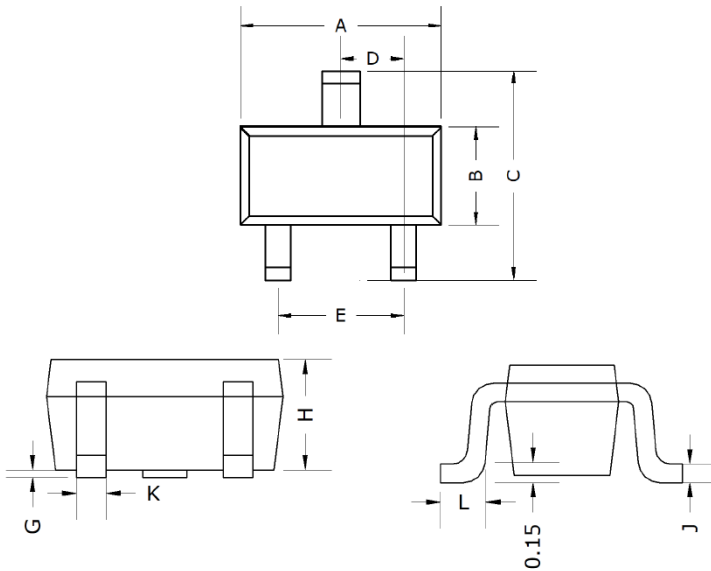




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## ■ SOT-523 Package Outline Dimensions

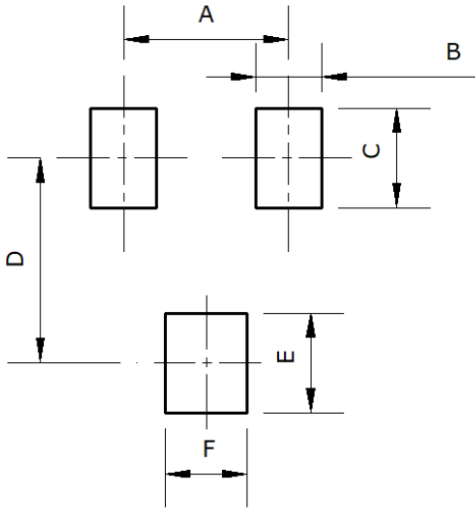


DIM	DIMENSIONS			
	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.059	0.067	1.50	1.70
B	0.030	0.033	0.75	0.85
C	0.057	0.069	1.45	1.75
D	0.020TYP		0.50TYP	
E	0.035	0.043	0.90	1.10
G	0.000	0.004	0.00	0.10
H	0.024	0.031	0.60	0.80
J	0.004	0.008	0.10	0.20
K	0.006	0.014	0.15	0.35
L	0.010	0.018	0.26	0.46



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## ■ SOT-523 Suggested Pad Layout



DIMENSIONS	
DIM	MM (TYP)
A	1.00
B	0.40
C	0.60
D	1.24
E	0.60
F	0.50



## DTC143ZE

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