



Micro Commercial Components

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# DTC123JUA

## Features

- Epitaxial Planar Die Construction
- Complementary NPN Types Available
- Built-in Bias Resistors
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

## Digital Transistors

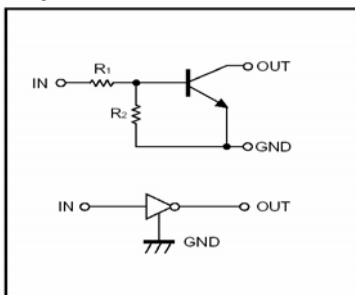
### Absolute maximum ratings @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
$V_{CC}$	Supply voltage	---	50	---	V
$V_{IN}$	Input voltage	-5	---	+12	V
$P_d$	Power dissipation	---	200	---	mW
$T_j$	Junction temperature	---	150	---	°C
$T_{stg}$	Storage temperature	-55	---	150	°C
$I_o$	Output current	---	100	---	mA
$I_{C(MAX)}$		---	100	---	

### Electrical Characteristics @ 25°C

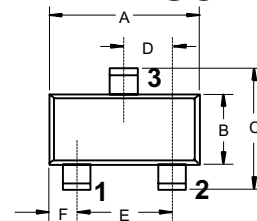
Symbol	Parameter	Min	Typ	Max	Unit
$V_{I(off)}$	Input voltage ( $V_{CC}=5V, I_o=100 \mu A$ ) ( $V_o=0.3V, I_o=5mA$ )	---	---	0.5	V
$V_{I(on)}$		1.1	---	---	V
$V_{O(on)}$	Output voltage ( $I_o=5mA, I_i=0.25mA$ )	---	0.1	0.3	V
$I_i$	Input current ( $V_i=5V$ )	---	---	3.6	mA
$I_{O(off)}$	Output current ( $V_{CC}=50V, V_i=0$ )	---	---	0.5	$\mu A$
$G_1$	DC current gain ( $V_o=5V, I_o=10mA$ )	80	---	---	
$R_1$	Input resistance	1.54	2.2	2.86	$K \Omega$
$R_2/R_1$	Resistance ratio	17	21	26	
$f_T$	Transition frequency ( $V_{CE}=10V, I_E=5mA, f=100MHz$ )	---	250	---	MHz

### Equivalent circuit

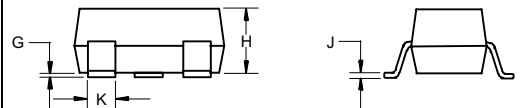


\*Marking: E42

### SOT-323

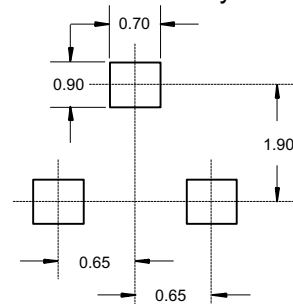


1:IN  
 2:GND  
 3:OUT



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.012	.016	.30	.40	

### Suggested Solder Pad Layout



## Typical Characteristics

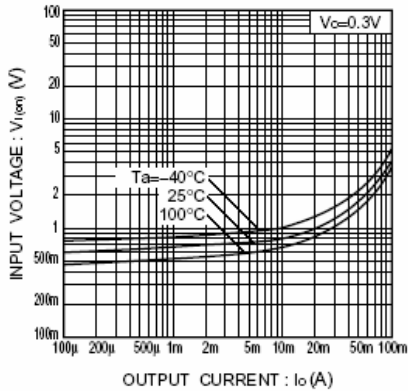


Fig.1 Input voltage vs. output current (ON characteristics)

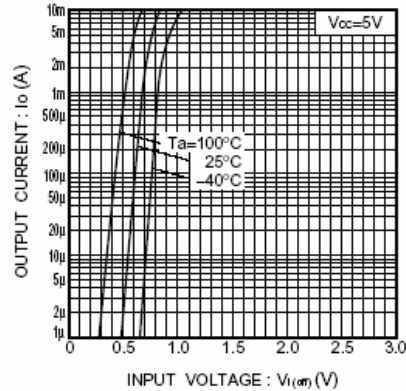


Fig.2 Output current vs. input voltage (OFF characteristics)

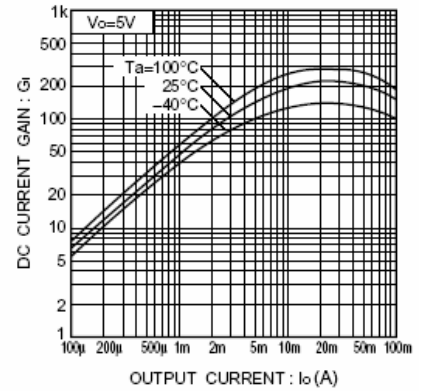


Fig.3 DC current gain vs. output current

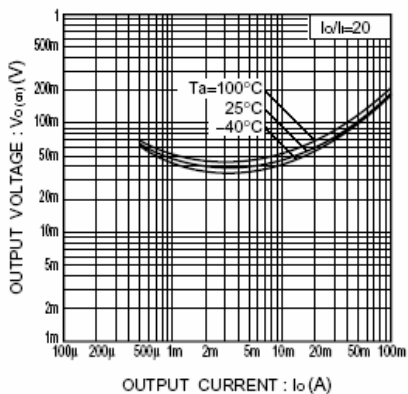


Fig.4 Output voltage vs. output current



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## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

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