



Micro Commercial Components



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# DTC123JCA

## Features

- Epitaxial Planar Die Construction
- Complementary NPN Types Available
- Built-In Biasing Resistors
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

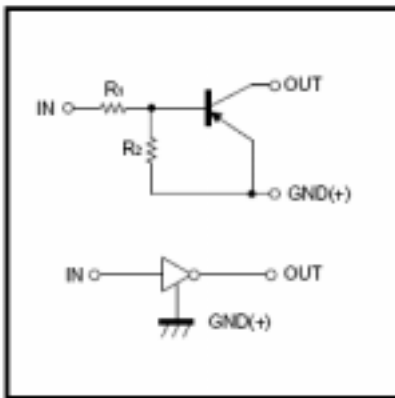
### Absolute maximum ratings @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
V <sub>CC</sub>	Supply voltage	---	50	---	V
V <sub>IN</sub>	Input voltage	-5	---	+12	V
P <sub>d</sub>	Power dissipation	---	200	---	mW
T <sub>J</sub>	Junction temperature	---	150	---	°C
T <sub>stg</sub>	Storage temperature	-55	---	150	°C
I <sub>O</sub>	Output current	---	100	---	mA
I <sub>C(MAX)</sub>		---	100	---	

### Electrical Characteristics @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
V <sub>I(off)</sub>	Input voltage (V <sub>CC</sub> =5V, I <sub>O</sub> =100 μA) (V <sub>O</sub> =0.3V, I <sub>O</sub> =5mA)	---	---	0.5	V
V <sub>I(on)</sub>		1.1	---	---	V
V <sub>O(on)</sub>	Output voltage (I <sub>O</sub> =5mA, I <sub>I</sub> =0.25mA)	---	0.1	0.3	V
I <sub>I</sub>	Input current (V <sub>I</sub> =5V)	---	---	3.6	mA
I <sub>O(off)</sub>	Output current (V <sub>CC</sub> =50V, V <sub>I</sub> =0)	---	---	0.5	μA
G <sub>I</sub>	DC current gain (V <sub>O</sub> =5V, I <sub>O</sub> =10mA)	80	---	---	
R <sub>1</sub>	Input resistance	1.54	2.2	2.86	K <sub>Ω</sub>
R <sub>2</sub> /R <sub>1</sub>	Resistance ratio	17	21	26	
f <sub>T</sub>	Transition frequency (V <sub>CE</sub> =10V, I <sub>E</sub> =5mA, f=100MHz)	---	250	---	MHz

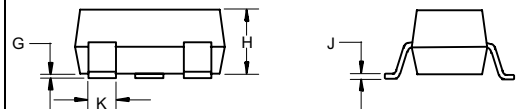
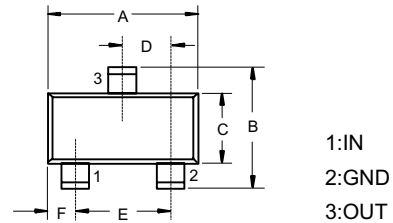
### Equivalent circuit



\*Marking: E42

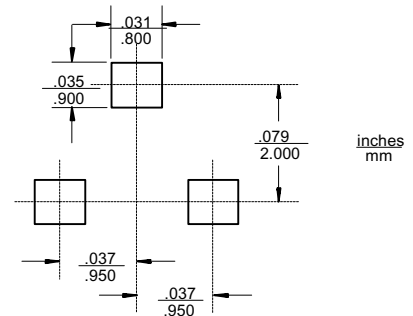
## Digital Transistors

### SOT-23



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

### Suggested Solder Pad Layout



**Typical Characteristics**

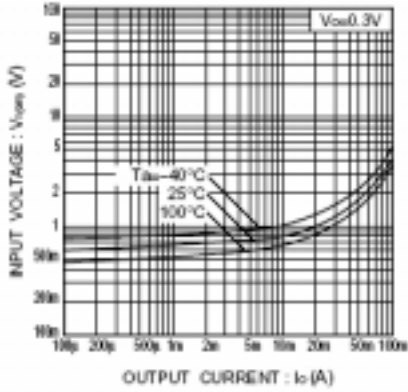


Fig.1 Input voltage vs. output current (ON characteristics)

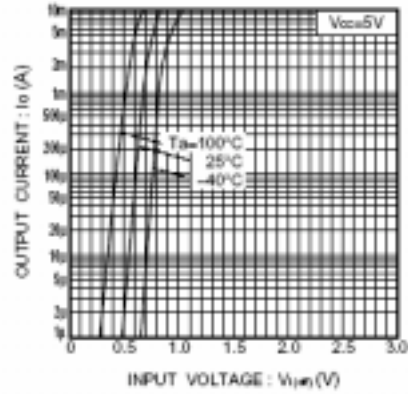


Fig.2 Output current vs. input voltage (OFF characteristics)

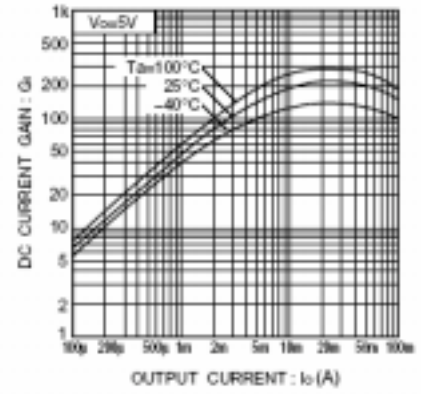


Fig.3 DC current gain vs. output current

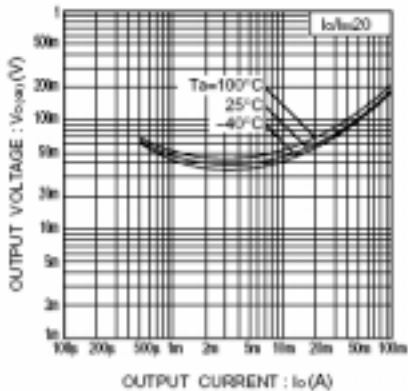


Fig.4 Output voltage vs. output current



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### Ordering Information :

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

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