



Micro Commercial Components



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# DTC123JCA

## Features

- Halogen free available upon request by adding suffix "-HF"
- 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

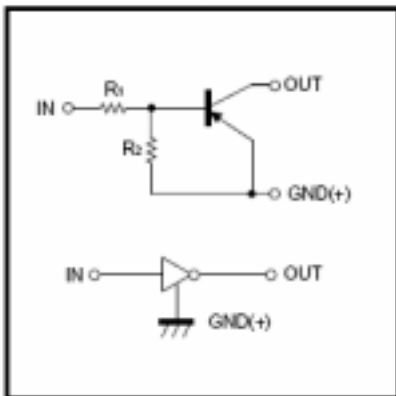
### Absolute maximum ratings @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
$V_{CC}$	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	$\mu A$
$G_i$	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

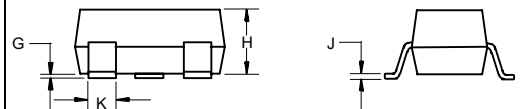
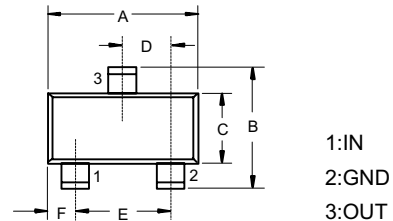
### Equivalent circuit



\*Marking: E42

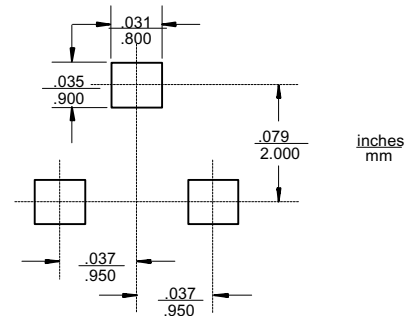
## Digital Transistors

### SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	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**

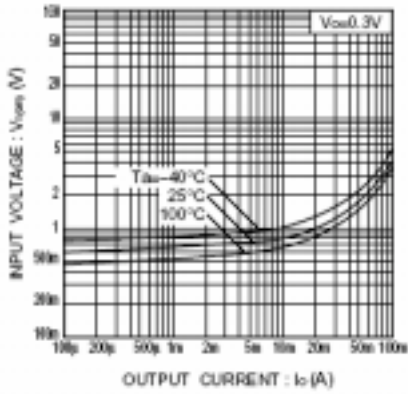


Fig.1 Input voltage vs. output current (ON characteristics)

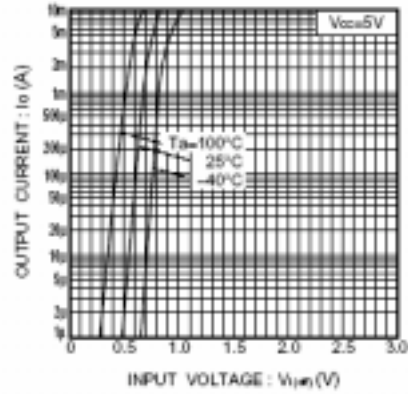


Fig.2 Output current vs. input voltage (OFF characteristics)

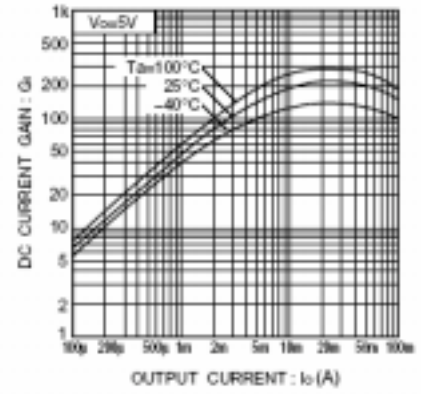


Fig.3 DC current gain vs. output current

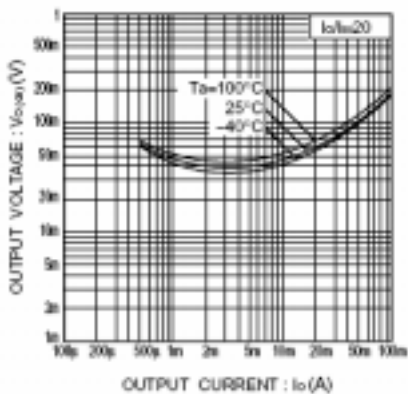


Fig.4 Output voltage vs. output current



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### Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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