Micro Commercial Components
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DTC123JCA

Digital Transistors

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
- Moisure Sensitivity Level 1

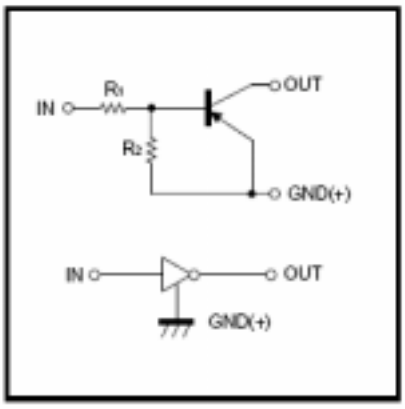
Absolute maximum ratings @ 25℃

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	---	℃
T_{stg}	Storage temperature	-55	---	150	℃
I_O	Output current		100		mA
$I_{C(MAX)}$			100		

Electrical Characteristics @ 25℃

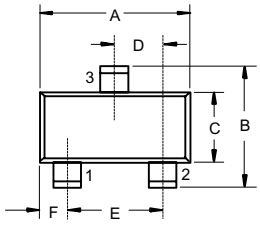
Symbol	Parameter	Min	Typ	Max	Unit
$V_{I(off)}$	Input voltage (V_{CC}=5V, I_O=100 μ A)	---	---	0.5	V
$V_{I(on)}$	(V_O=0.3V, I_O=5mA)	1.1	---	---	V
$V_{O(on)}$	Output voltage (I_O=5mA,I_I=0.25mA)	---	0.1	0.3	V
I_I	Input current (V_I=5V)	---	---	3.6	mA
$I_{O(off)}$	Output current (V_{CC}=50V, V_I=0)	---	---	0.5	μ A
G_I	DC current gain (V_O=5V, I_O=10mA)	80	---	---	
R_1	Input resistance	1.54	2.2	2.86	K Ω
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

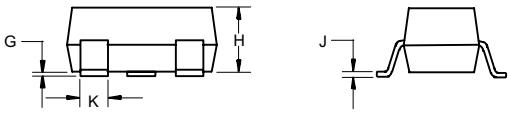


*Marking: E42

SOT-23

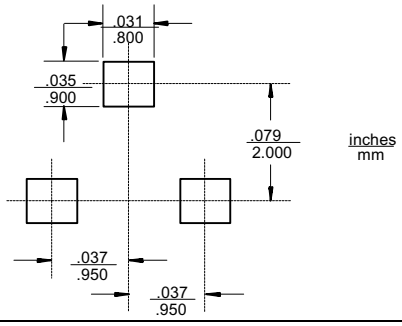


1:IN
2:GND
3:OUT



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
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

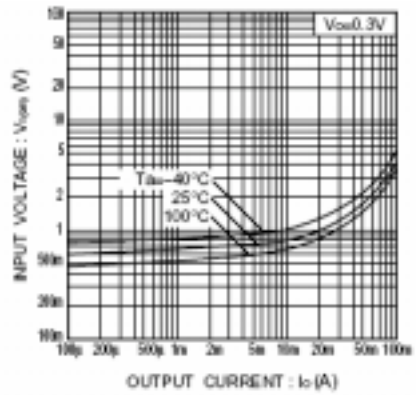


Fig.1 Input voltage vs. output current (ON characteristics)

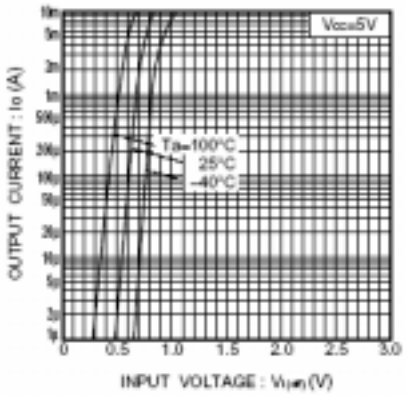


Fig.2 Output current vs. input voltage (OFF characteristics)

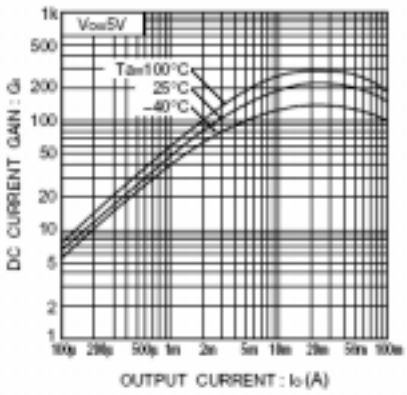


Fig.3 DC current gain vs. output current

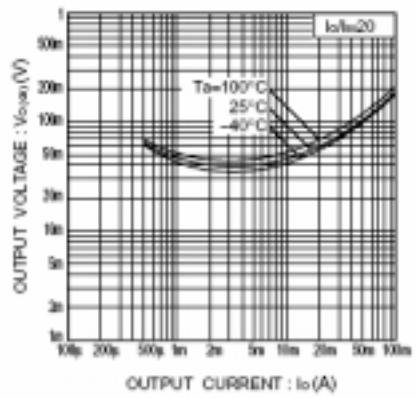


Fig.4 Output voltage vs. output current

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Ordering Information :

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

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

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