



# THE DATASHEET OF UMH11N-TP





Micro Commercial Components



Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

# UMH11N

## Digital Transistors

### Features

- Halogen free available upon request by adding suffix "-HF"
- Two DTC114E Chips in SOT-363 Package.
- Transistor elements are independent, eliminating interference
- Design For Saving Space and Cost.
- 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

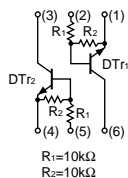
### Absolute maximum ratings @ 25 °C

Symbol	Parameter	Value	Unit
V <sub>CC</sub>	Supply voltage	50	V
V <sub>IN</sub>	Input voltage	-10~40	V
I <sub>O</sub>	Output current	50	mA
I <sub>C(MAX)</sub>	Collector Current	100	mA
P <sub>d</sub>	Power dissipation	150(Total)	mW
T <sub>j</sub>	Junction temperature	150	°C
T <sub>stg</sub>	Storage temperature	-55~150	°C

### Electrical Characteristics @ 25 °C

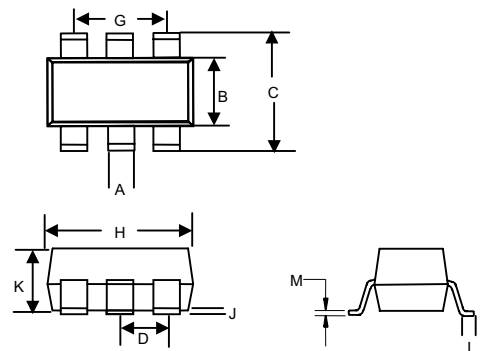
Symbol	Parameter	Min	Typ	Max	Unit
V <sub>I(off)</sub>	Input voltage (V <sub>CC</sub> =5V, I <sub>O</sub> =100µA) (V <sub>O</sub> =0.3V, I <sub>O</sub> =10mA)	---	---	0.5	V
V <sub>I(on)</sub>		3.0	---	---	V
V <sub>O(on)</sub>	Output voltage (I <sub>O</sub> /I <sub>I</sub> =10mA/0.5mA)	---	---	0.3	V
I <sub>I</sub>	Input current (V <sub>I</sub> =5V)	---	---	0.88	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> =5mA)	30	---	---	
R <sub>1</sub>	Input resistance	7	10	13	KΩ
R <sub>2</sub> /R <sub>1</sub>	Resistance ratio	0.8	1.0	1.2	
f <sub>T</sub>	Transition frequency (V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz)	---	250	---	MHz

### Equivalent circuit



Marking :H11

### SOT-363



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.006	.014	0.15	0.35	
B	.045	.053	1.15	1.35	
C	.085	.096	2.15	2.45	
D	.026		0.65Nominal		
G	.047	.055	1.20	1.40	
H	.071	.087	1.80	2.20	
J	---	.004	---	0.10	
K	.035	.043	0.90	1.10	
L	.010	.018	0.26	0.46	
M	.003	.006	0.08	0.15	

# UMH11N

## Electrical characteristic curves

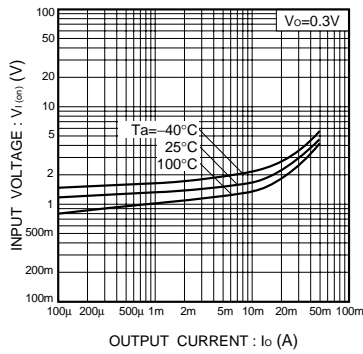


Fig.1 Input voltage vs. output current (ON characteristics)

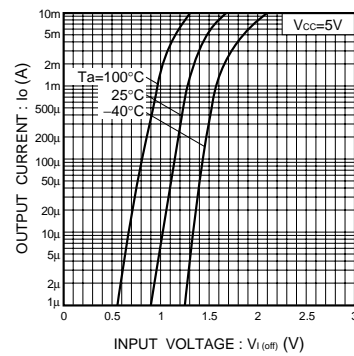


Fig.2 Output current vs. input voltage (OFF characteristics)

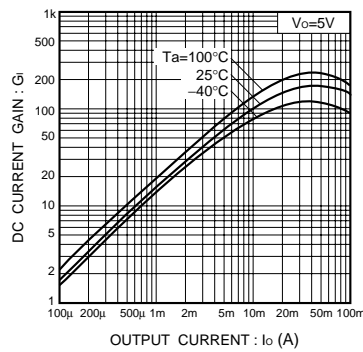


Fig.3 DC current gain vs. output current

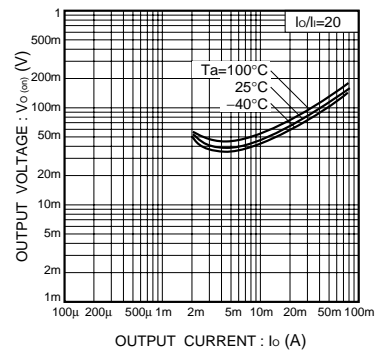


Fig.4 Output voltage vs. output current



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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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