



# THE DATASHEET OF UMH2N-TP





Micro Commercial Components

Micro Commercial Components  
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# UMH2N

## Features

- Halogen free available upon request by adding suffix "-HF"
- Two DTC144E chips in one package
- Mounting possible with SOT-363 automatic mounting machines.
- Transistor elements are independent, eliminating interference.
- 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

## Dual Transistors

## Mechanical Data

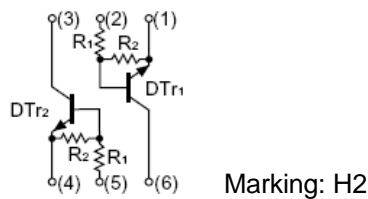
- Case: SOT-363, Molded Plastic
- Polarity: See Diagram (NPN\*2)

### Maximum Ratings @ 25°C Unless Otherwise Specified

Symbol	Parameter	Value	Units
<b>OFF CHARACTERISTICS</b>			
V <sub>CC</sub>	Supply Voltage	50	V
V <sub>i</sub>	Input voltage	-10 to +40	V
I <sub>C(MAX)</sub>	Output current	100	mA
P <sub>D</sub>	Power dissipation	150	mW
T <sub>J</sub>	Junction temperature	150	°C
T <sub>stg</sub>	Storage temperature	-55~+150	°C

**SOT-363**

DIMENSIONS					
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	



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## Electrical Characteristics (T<sub>a</sub>=25°C)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Input turn-on voltage	V <sub>i(on)</sub>	V <sub>CC</sub> =0.3V, I <sub>O</sub> =2mA	3			V
Input cut-off voltage	V <sub>i(off)</sub>	V <sub>CC</sub> =5V, I <sub>O</sub> =100μA			0.5	V
Output voltage	V <sub>O(on)</sub>	I <sub>O</sub> =10mA, I <sub>i</sub> =0.5mA			0.3	V
Input cut-off current	I <sub>i</sub>	V <sub>i</sub> =5V			0.18	mA
Output cut-off current	I <sub>O(off)</sub>	V <sub>CC</sub> =50V, V <sub>i</sub> =0			0.5	μA
DC current gain	G <sub>i</sub>	V <sub>O</sub> =5V, I <sub>O</sub> =5mA	68			
Transition frequency	f <sub>T</sub>	V <sub>O</sub> =10V, I <sub>O</sub> =5mA, f=100MHz		250		MHz
Input resistance	R <sub>1</sub>		32.9		61.1	KΩ
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>		0.8		1.2	

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## Typical Characteristics



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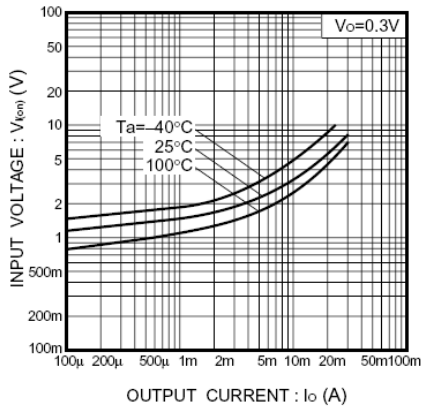


Fig.1 Input voltage vs. output current (ON characteristics)

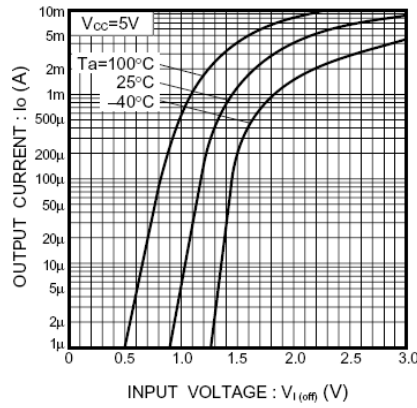


Fig.2 Output current vs. input voltage (OFF characteristics)

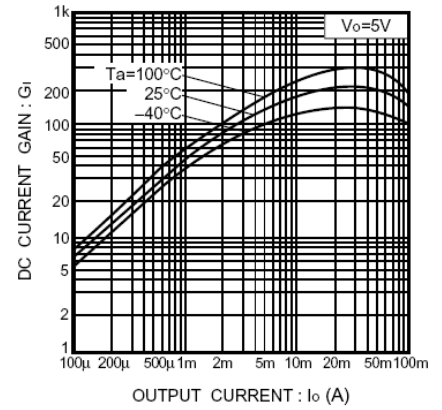


Fig.3 DC current gain vs. output current

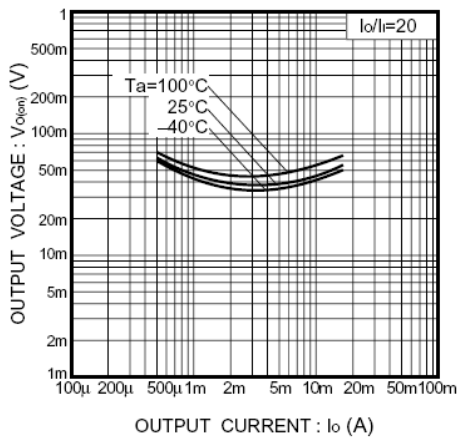


Fig.4 Output voltage vs. output current



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### Ordering Information :

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

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