



Micro Commercial Components

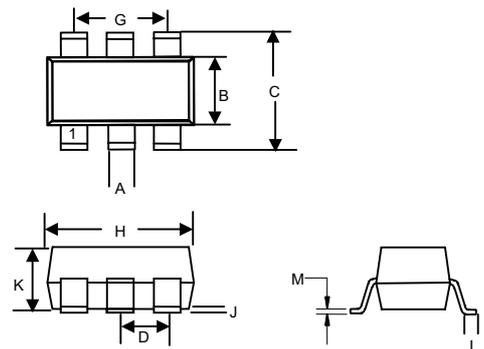


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# UMD10N

## Digital Transistors

### 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	

## Features

- Both the DTC123J chip and DTA123J chip in a package
- Mounting possible with SOT-363 automatic mounting machines.
- Transistor elements are independent, eliminating interference.
- Halogen free available upon request by adding suffix "-HF"
- 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

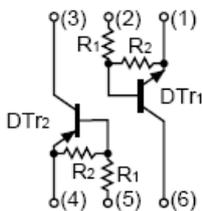
### T<sub>R1</sub> Absolute maximum ratings @ 25°C

Symbol	Parameter	Value	Unit
V <sub>CC</sub>	Supply voltage	50	V
V <sub>IN</sub>	Input voltage	-5~12	V
I <sub>O</sub>	Output current	100	mA
I <sub>C(MAX)</sub>	Collector 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

### T<sub>R1</sub> 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> =5mA )	0.5	---	---	V
V <sub>I(on)</sub>		---	---	1.1	V
V <sub>O(on)</sub>	Output voltage (I <sub>O</sub> /I <sub>I</sub> =5mA/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>1</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	KΩ
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 :D10

# UMD10N

## T<sub>R2</sub> Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	-50	V
Input voltage	V <sub>IN</sub>	-12~5	V
Output current	I <sub>O</sub>	-100	mA
	I <sub>C(MAX)</sub>	-100	
Power dissipation	Pd	150	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~150	°C

## T<sub>R2</sub> Electrical characteristics (Ta=25°C)

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



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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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