

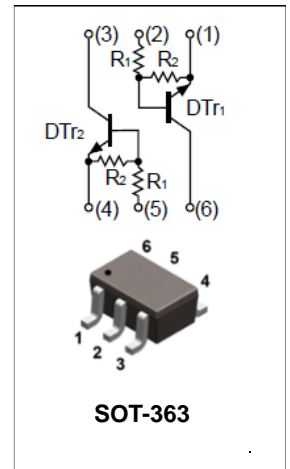


Features

- Two DTC114Y transistors are built-in a package
- Transistor elements are independent, eliminating interference
- Mounting cost and area can be cut in half

Mechanical Data

- Case: SOT-363
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
UMH9N	SOT-363	3000 pcs / Tape & Reel	H9

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Symbol	Parameter	Value	Unit
V _{CC}	Supply Voltage	50	V
V _I	Input Voltage	40	V
I _O	Output Current	70	mA
I _{C(Max)}	Collector Current	100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	150	mW
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	413	°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	257	°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	315	°C/W
Operating Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Note 1: The data tested by surface mounted on a 21mm * 17mm * 1mm FR4-epoxy P.C.B



Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	$V_{I(OFF)}$	$V_{CC} = 5V, I_o = 100\mu A$	0.3	-	-	V
Input Voltage	$V_{I(ON)}$	$V_o = 0.3V, I_o = 1mA$	-	-	1.4	V
Output Voltage	$V_{O(on)}$	$I_o = 5mA, I_i = 0.25mA$	-	-	0.3	V
Input Current	I_i	$V_i = 5V$	-	-	0.88	mA
Output Current	$I_{O(off)}$	$V_{CC} = 50V, V_i = 0V$	-	-	0.5	μA
DC Current Gain	G_i	$V_o = 5V, I_o = 5mA$	68	-	-	-
Input Resistor	R_1		7	10	13	k Ω
Resistance ratio	R_2/R_1		3.7	4.7	5.7	-
Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_E = -5mA$ $f = 100MHz$	-	250	-	MHz



Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

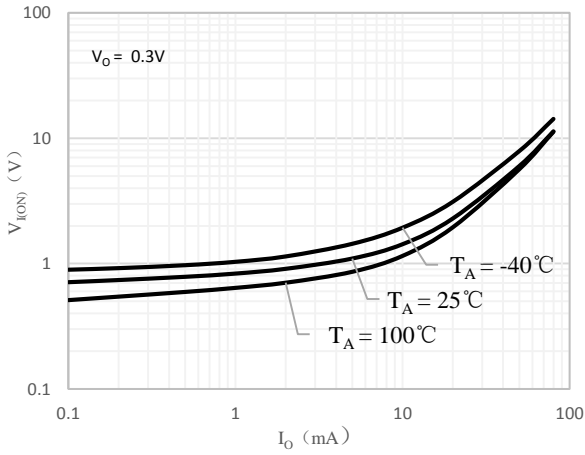


Fig 1 Input Voltage vs Output Current

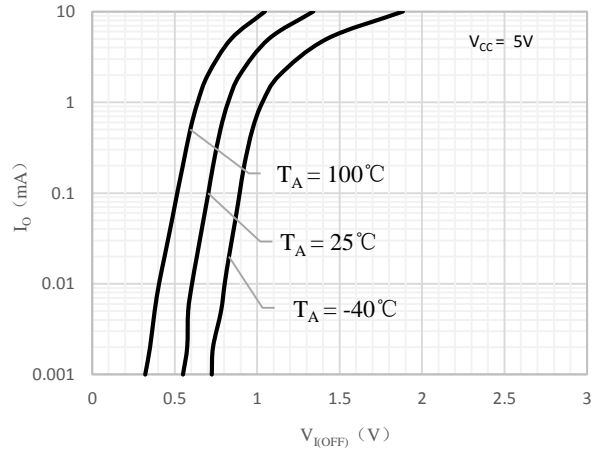


Fig 2 Output Current vs Input Voltage

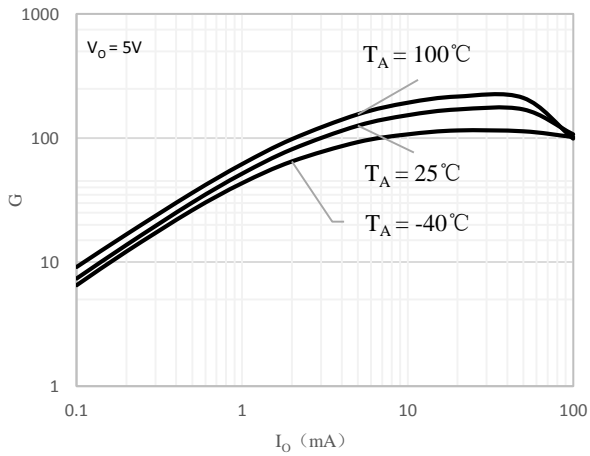


Fig 3 DC Current Gain vs Output Current

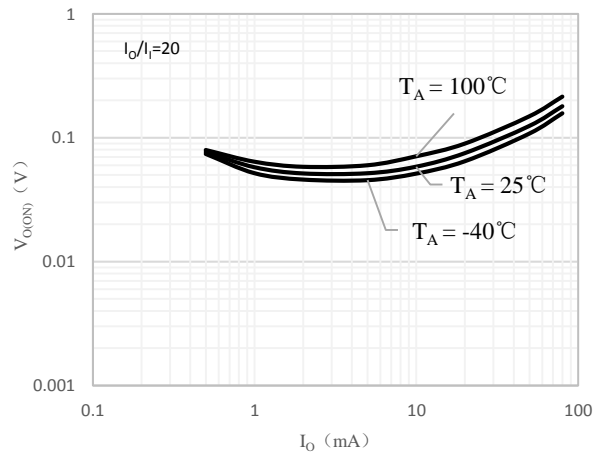
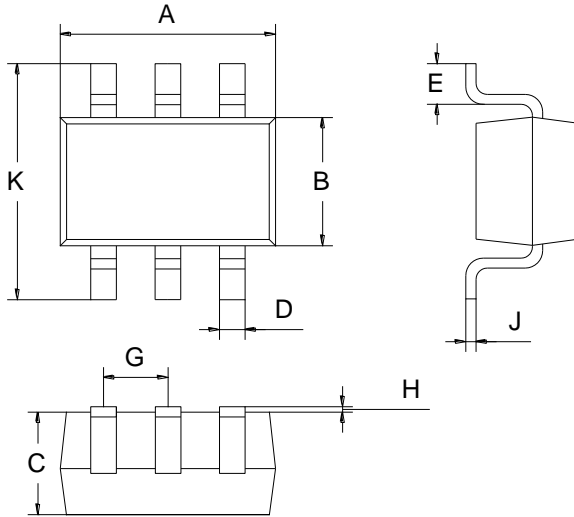


Fig 4 Output Voltage vs Output Current



Package Outline Dimensions (Unit: mm)



SOT-363		
Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout (Unit: mm)

SOT-363

