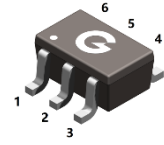
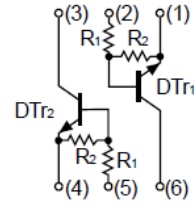


Features

- Built-in biasing resistors (R_1 : 22k Ω , R_2 : 47k Ω)
- Transistor elements are independent, eliminating interference
- Mounting cost and area can be cut in half
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF



SOT-363

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
TUMH16N	SOT-363	3000 pcs / Tape & Reel	H16

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

Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	50	V
V_I	Input Voltage	-10 to +40	V
I_O	Output Current	50	mA
$I_{C(Max)}$	Collector Current	100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation *1	P_D	200	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Note 1: Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	$V_{I(OFF)}$	$V_{CC} = 5V, I_O = 100\mu A$	0.4	-	-	V
Input Voltage	$V_{I(ON)}$	$V_O = 0.3V, I_O = 2mA$	-	-	2.5	V
Output Voltage	$V_{O(on)}$	$I_O = 10mA, I_I = 0.5mA$	-	-	0.3	V
Input Current	I_I	$V_I = 5V$	-	-	0.36	mA
Output Current	$I_{O(off)}$	$V_{CC} = 50V, V_I = 0V$	-	-	0.5	μA
DC Current Gain	G_I	$V_O = 5V, I_O = 10mA$	68	-	-	-
Input Resistor	R_1		15.4	22	28.6	k Ω
Resistance ratio	R_2/R_1		1.7	2.1	2.6	-
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)

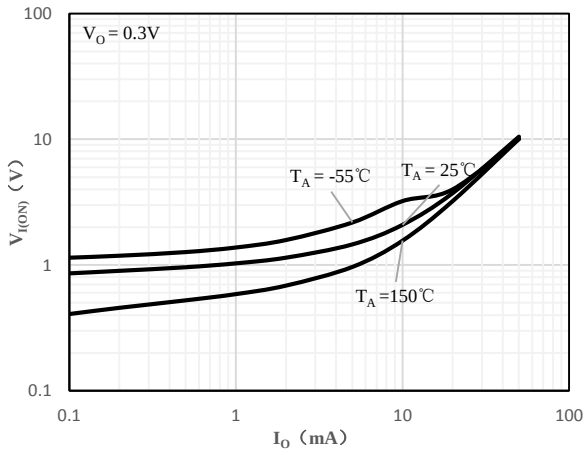


Fig 1 Input Voltage vs Output Current

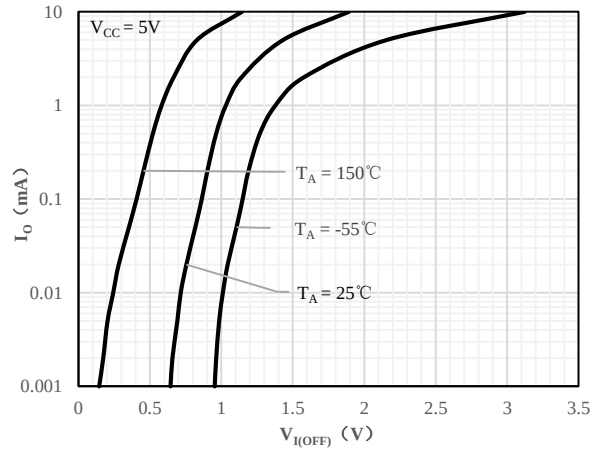


Fig 2 Output Current vs Input Voltage

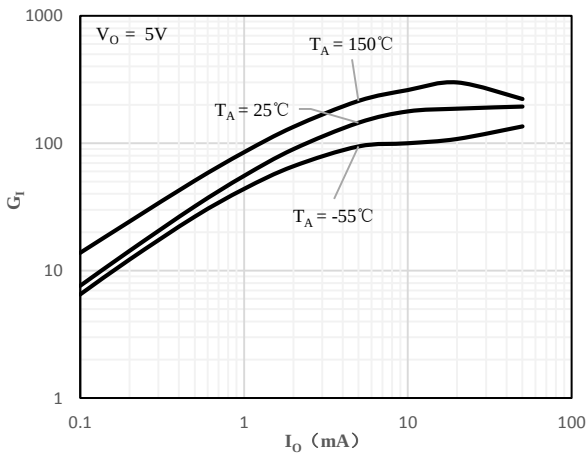


Fig 3 DC Current Gain vs Output Current

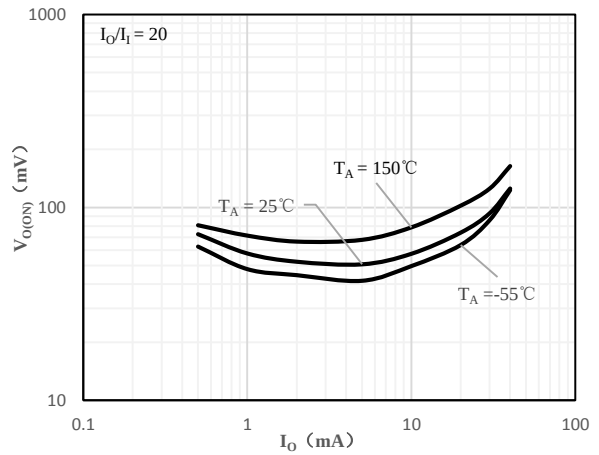
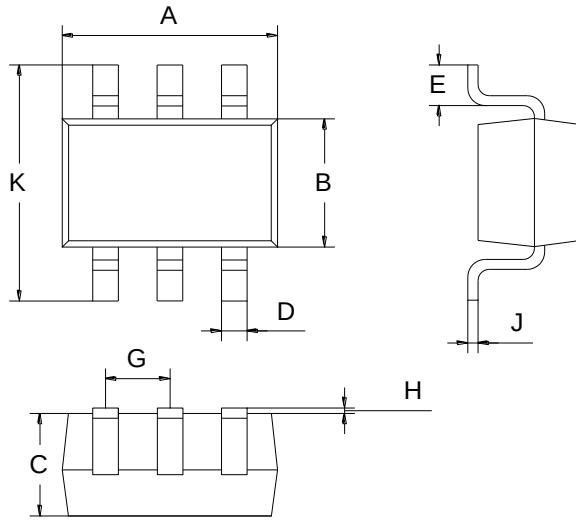


Fig 4 Output Voltage vs Output Current

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)

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