

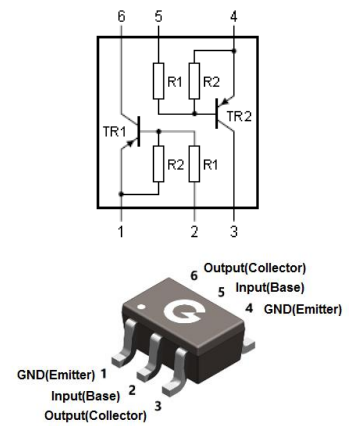
Features

- Two DTA144E transistors are built-in a package
- Built-in biasing resistors (R_1 : 47k Ω , R_2 : 47k Ω)
- Transistor elements are independent, eliminating interference
- Reduces component count
- RoHS compliant with Halogen-free

HF

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



SOT-363

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
UMB2N	SOT-363	3000 pcs / Tape & Reel	B2

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

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	-50	V
Input Voltage	V_I	-40 to +10	V
Output Current	I_O	-30	mA
Collector Current	$I_{C(Max)}$	-100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ($T_A = 25^\circ\text{C}$)	P_D	150	mW
Thermal Resistance Junction-to-Air	$R_{\theta JA}$	833	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	$V_{I(\text{OFF})}$	$V_{CC} = -5\text{V}$, $I_O = -100\mu\text{A}$	-0.5	-	-	V
Input Voltage	$V_{I(\text{ON})}$	$V_O = -0.3\text{V}$, $I_O = -2\text{mA}$	-	-	-3	V
Output Voltage	$V_{O(\text{on})}$	$I_O = -10\text{mA}$, $I_I = -0.5\text{mA}$	-	-	-0.3	V
Input Current	I_I	$V_I = -5\text{V}$	-	-	-0.18	mA
Output Current	$I_{O(\text{off})}$	$V_{CC} = -50\text{V}$, $V_I = 0\text{V}$	-	-	-0.5	μA
DC Current Gain	G_I	$V_O = -5\text{V}$, $I_O = -5\text{mA}$	68	-	-	-
Input Resistor	R_1		32.9	47	61.1	k Ω
Resistance ratio	R_2/R_1		0.8	1.0	1.2	-
Gain-Bandwidth Product	f_T	$V_{CE} = -10\text{V}$, $I_E = -5\text{mA}$ $f = 100\text{MHz}$	-	250	-	MHz

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

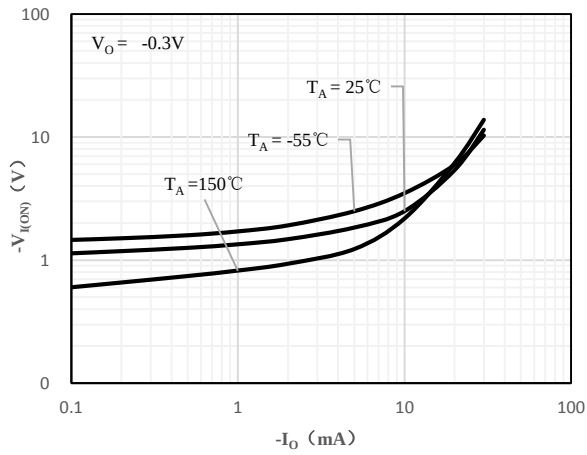


Fig 1 Input Voltage vs Output Current

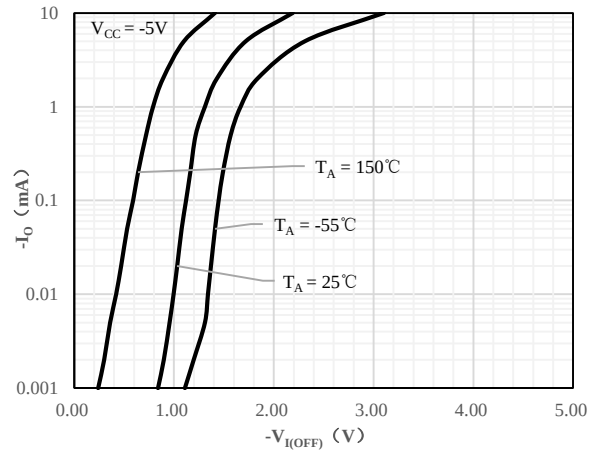


Fig 2 Output Current vs Input Voltage

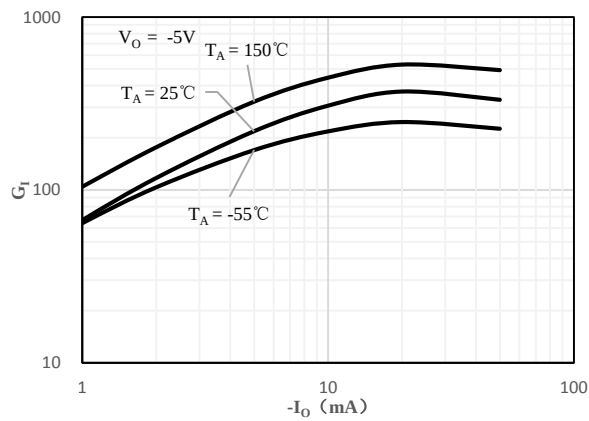


Fig 3 DC Current Gain vs Output Current

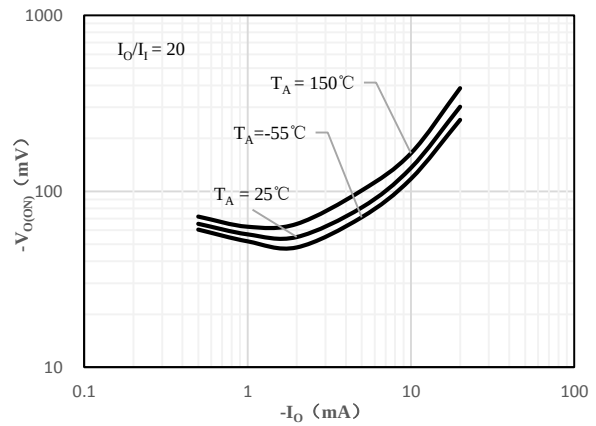
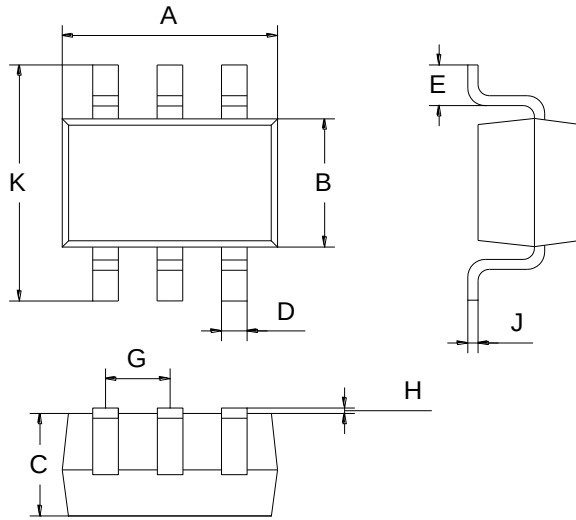


Fig 4 Output Voltage vs Output Current

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

