

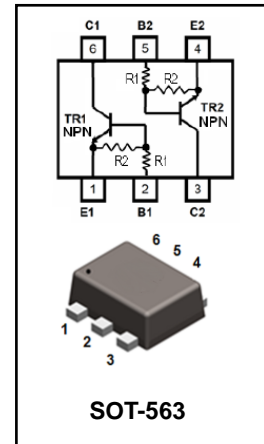


### Features

- Two DTC144E chip in SOT-563 package
- Transistor elements are independent, eliminating interference
- Mounting cost and area can be cut in half

### Mechanical Data

- Case: SOT-563
- 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
EMH2	SOT-563	3000 pcs / Tape & Reel	H2

### Maximum Ratings (@ T<sub>A</sub> = 25°C unless otherwise specified)

Symbol	Parameter	Value		Unit
		Tr1	Tr2	
V <sub>CC</sub>	Supply Voltage	50	50	V
V <sub>IN</sub>	Input Voltage	-10 to +40	-10 to +40	V
I <sub>O</sub>	Output Current	30	30	mA
I <sub>C(MAX.)</sub>	Collector Current *1	100	100	mA

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation *2, 3	P <sub>D</sub>	150	mW
Operating Junction Temperature Range	T <sub>J</sub>	-55 ~ +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ +150	°C



### Electrical Characteristics-TR1 and TR2 (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	V <sub>I(off)</sub>	V <sub>CC</sub> = 5V, I <sub>O</sub> = 100μA	0.5	-	-	V
	V <sub>I(on)</sub>	V <sub>O</sub> = 0.3V, I <sub>O</sub> = 2mA	-	-	3	V
Output Voltage	V <sub>O(on)</sub>	I <sub>O</sub> = 10mA, I <sub>I</sub> = 0.5mA	-	-	0.3	V
Input Current	I <sub>I</sub>	V <sub>I</sub> = 5V	-	-	180	μA
Output Current	I <sub>O(off)</sub>	V <sub>CC</sub> = 50V, V <sub>I</sub> = 0V	-	-	0.5	μA
DC Current Gain	G <sub>I</sub>	V <sub>O</sub> = 5V, I <sub>O</sub> = 5mA	68	-	-	-
Input Resistor	R <sub>1</sub>		32.9	47	61.1	kΩ
Resistance Ratio	R <sub>2</sub> /R <sub>1</sub>		0.8	1	1.2	
Gain-Bandwidth Product *1	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>E</sub> = -5mA, f = 100MHz	-	250	-	MHz

Notes:

- Characteristics of built-in transistor
- Each terminal mounted on a reference land  
120mW per element must not be exceeded



**Ratings and Characteristics Curves-TR1 and TR2** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)

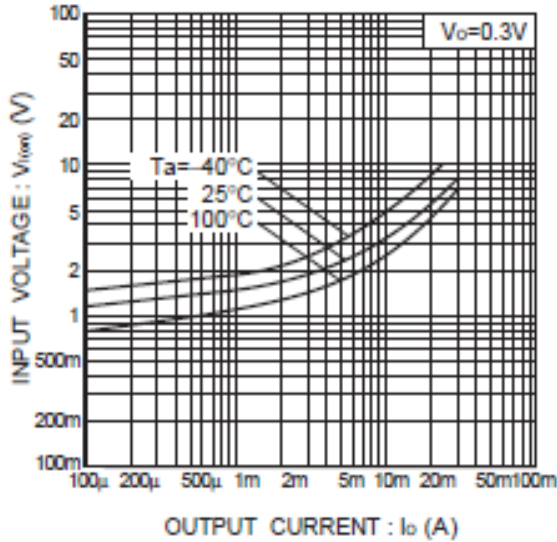


Fig.1 Input voltage vs. output current (ON characteristics)

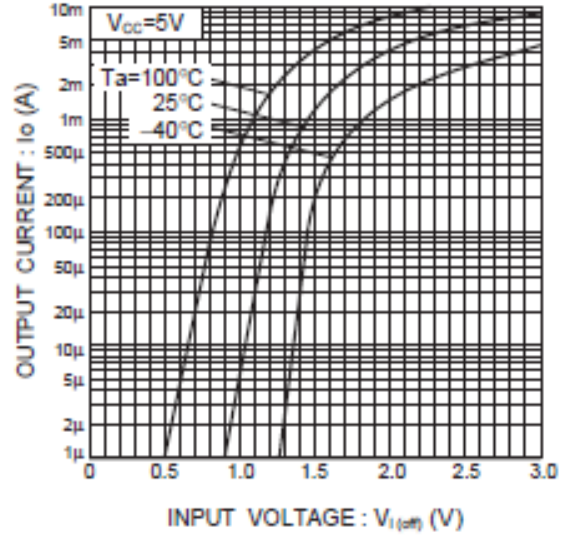


Fig.2 Output current vs. input voltage (OFF characteristics)

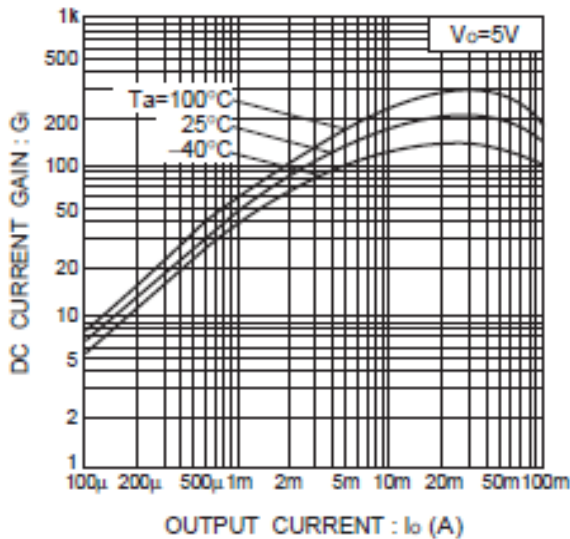


Fig.3 DC current gain vs. output current

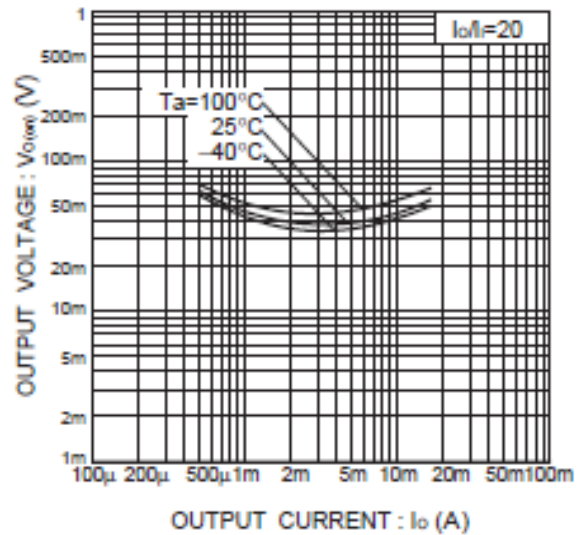
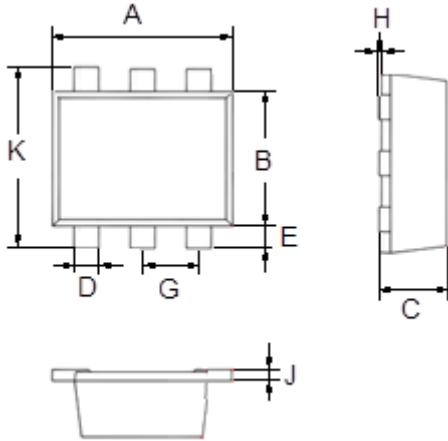


Fig.4 Output voltage vs. output current



### Package Outline Dimensions (Unit: mm)



SOT-563		
Dimension	Min.	Max.
A	1.500	1.700
B	1.100	1.300
C	0.525	0.600
D	0.170	0.270
E	0.100	0.300
G	0.450	0.550
H	0.000	0.050
J	0.090	0.160
K	1.500	1.700

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SOT-563

