Dual Digital Transistors

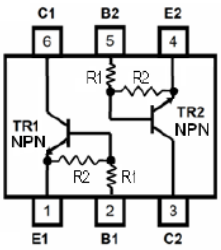
EMH10

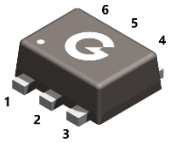
Features

- Two DTC123J transistors in SOT-563 Package
- Transistor elements are independent, eliminating interference
- Built-in biasing resistors (R_1: 2.2kΩ, R_2: 47kΩ)
- Mounting cost and area can be cut in half
- RoHS compliant with Halogen-free

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





SOT-563

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
EMH10	SOT-563	3000 pcs / Tape & Reel	H10

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

Parameter	Symbol	Value		Unit
		TR1	TR2	
Supply Voltage	V_{CC}	50	50	V
Input Voltage	V_{IN}	-5 to +12	-5 to +12	V
Output Current	I_O	100	100	mA
Collector Current	$I_{C(Max)}$	100	100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	150	mW
Operating Junction Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics-TR1 and TR2 (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	$V_{I(off)}$	V_{CC} = 5V, I_O = 100μA	0.5	-	-	V
	$V_{I(on)}$	V_O = 0.3V, I_O = 5mA	-	-	1.1	V
Output Voltage	$V_{O(on)}$	Io = 5mA, I_I = 0.25mA	-	0.1	0.3	V
Input Current	I_I	V_I = 5V	-	-	3.6	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	80	-	-	-
Input Resistor	R_1		1.54	2.2	2.86	kΩ
Resistance Ratio	R2/R1		17	21	26	
Gain-Bandwidth Product	f_T	V_{CE} = 10V, I_E = -5mA, f = 100MHz	-	250	-	MHz

Ratings and Characteristics Curves-TR1 and TR2 (@ T_A = 25°C unless otherwise specified)

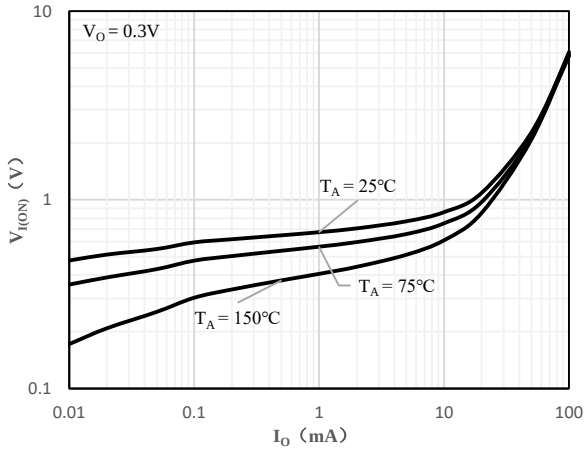


Fig 1 Input Voltage vs Output Current

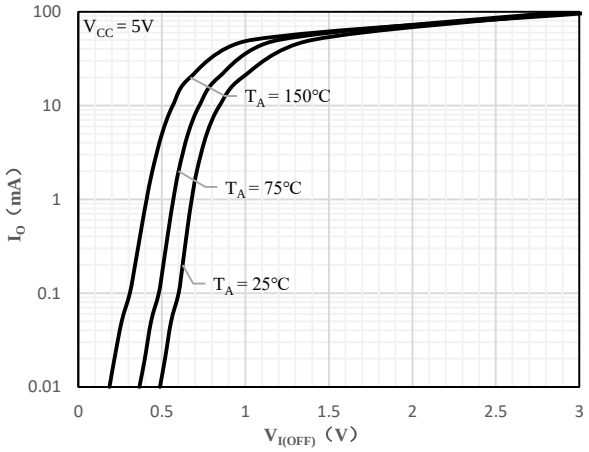


Fig 2 Output Current vs Input Voltage

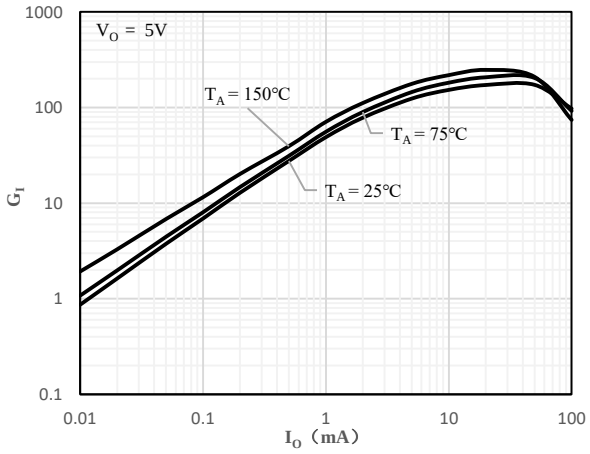


Fig 3 DC Current Gain vs Output Current

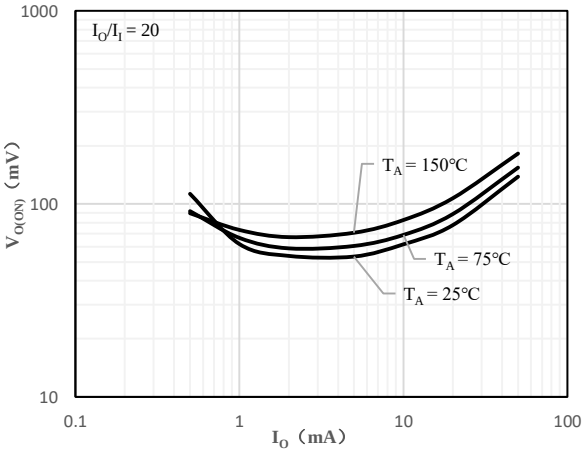
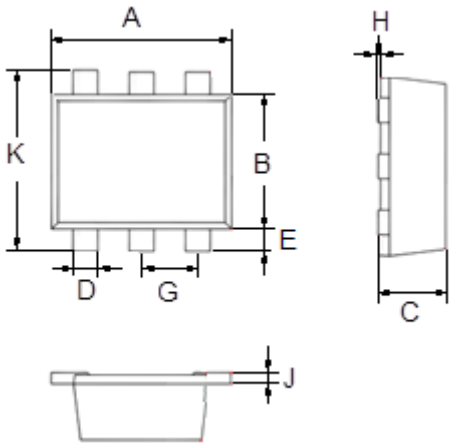


Fig 4 Output Voltage vs Output Current

Package Outline Dimensions (Unit: mm)



SOT-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

Package Outline Dimensions (Unit: mm)

SOT-563

